ORDER NO. VQS0281-4
D5

# Panasonic

D-3 1/2" DIGITAL

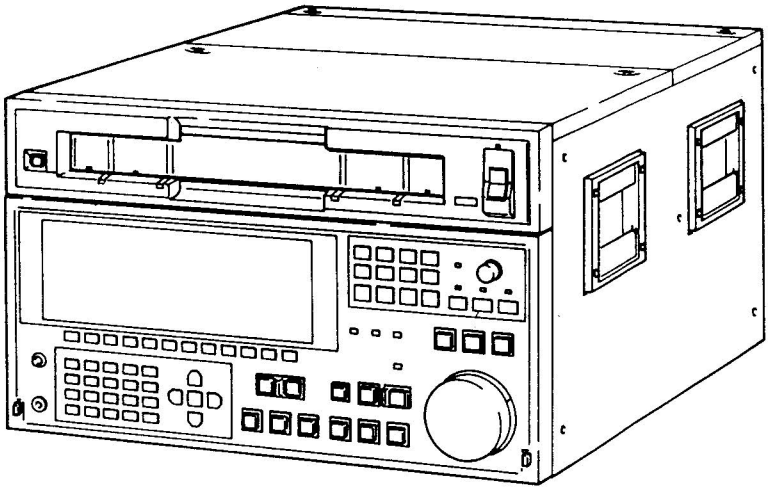
## STUDIO VTR

## AJ-D350-P/E

NTSC/PAL

# Operating Instructions & Service Manual

V. 5–0



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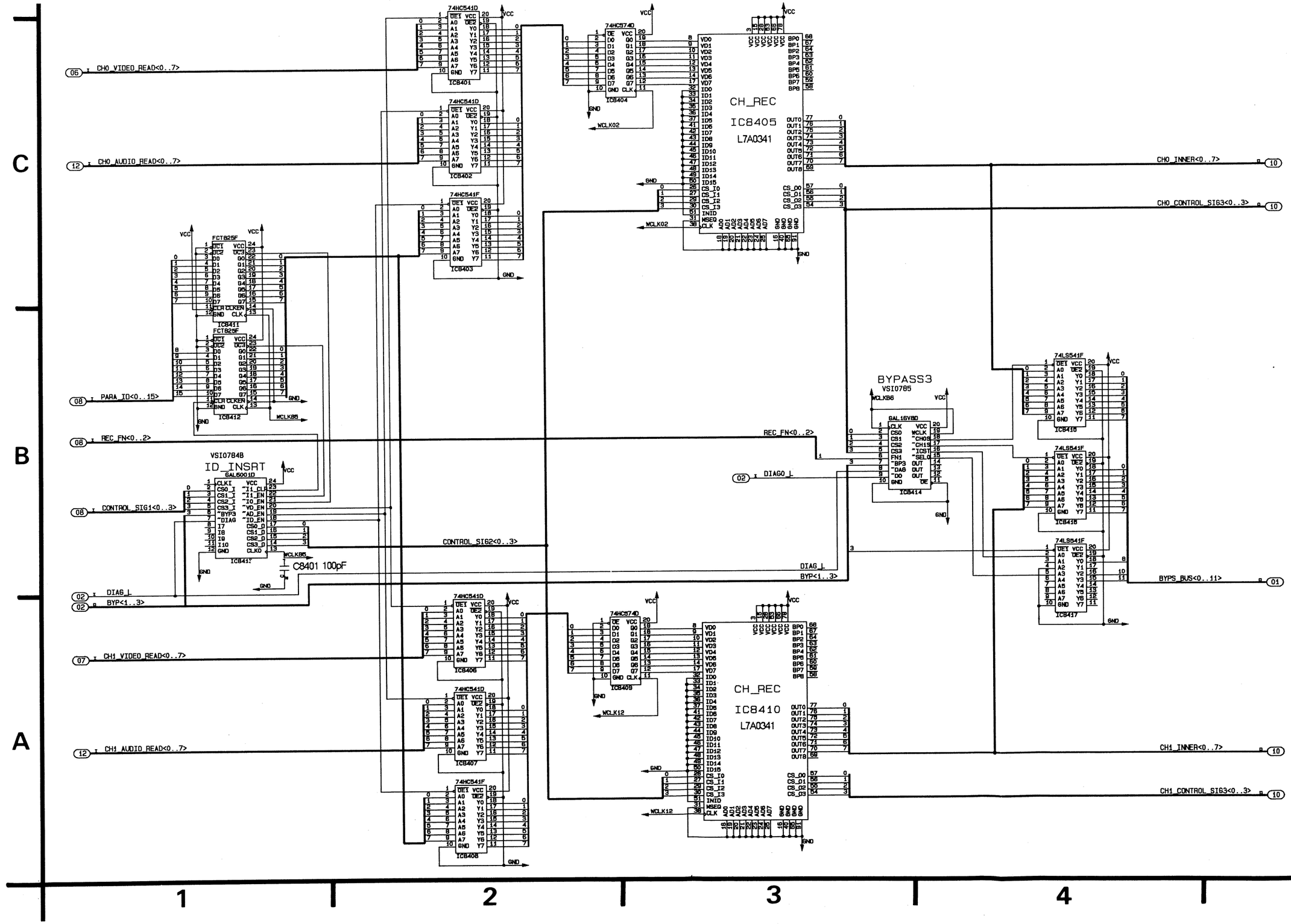
# Broadcast Systems

FILE NO. VSD9106M001-5

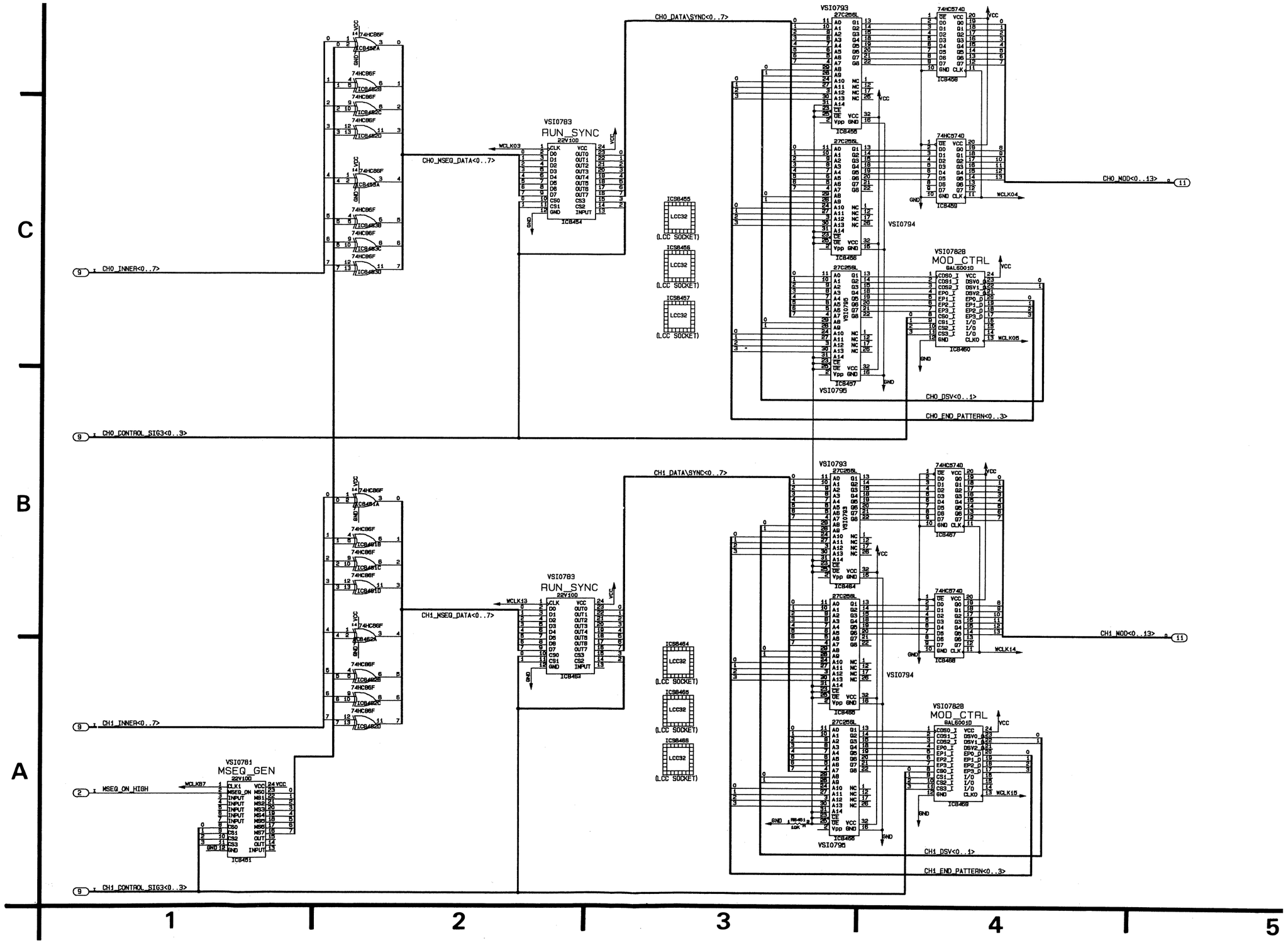
# L2 VIDEO/AUDIO REC (ID INSERT & INNER ENCODE) SCHEMATIC DIAGRAM (9/19)






4—2—19

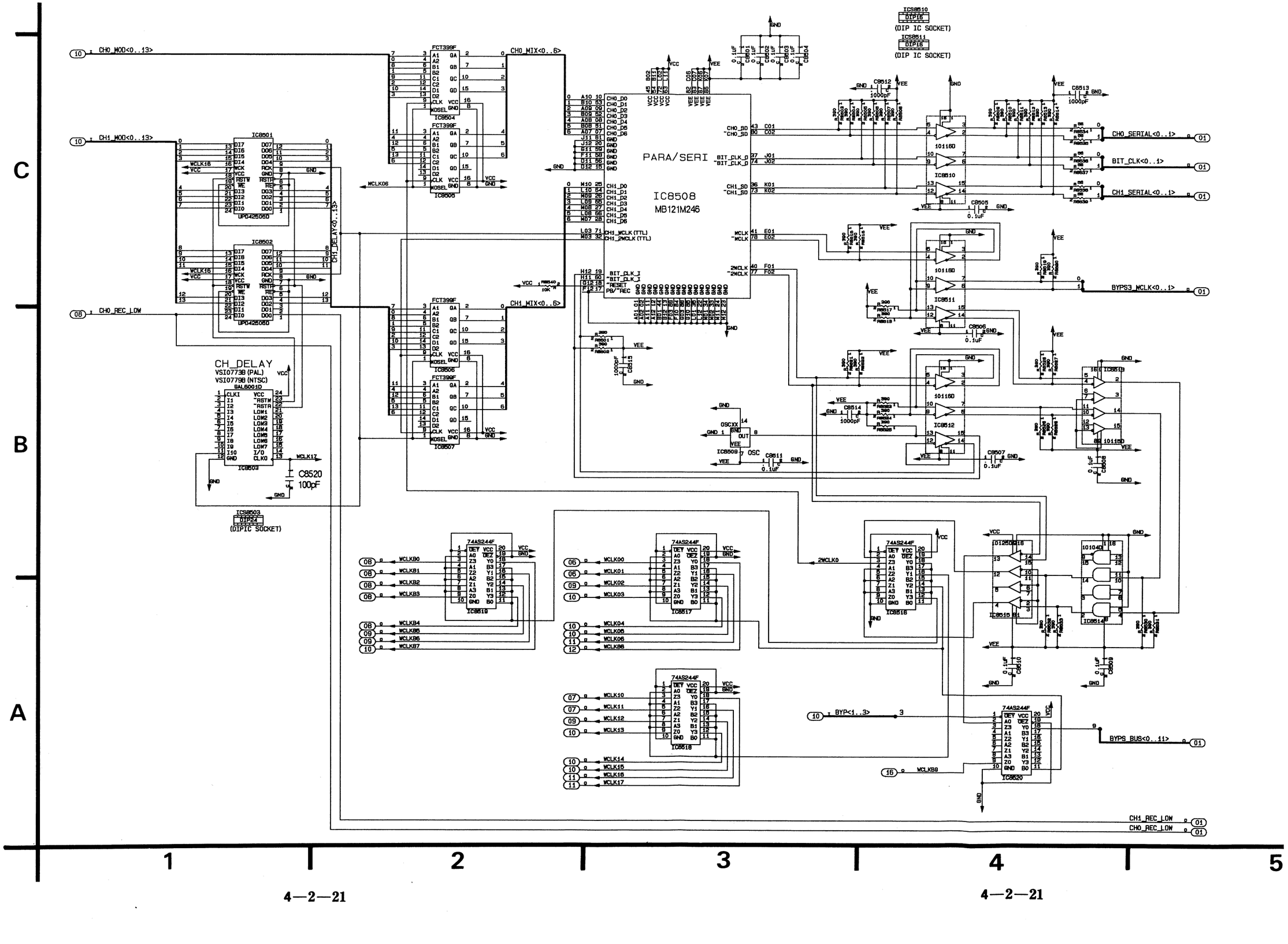
# L2 VIDEO/AUDIO REC (8→14 MODULATOR) SCHEMATIC DIAGRAM (10/19)




4—2—20

4—2—20

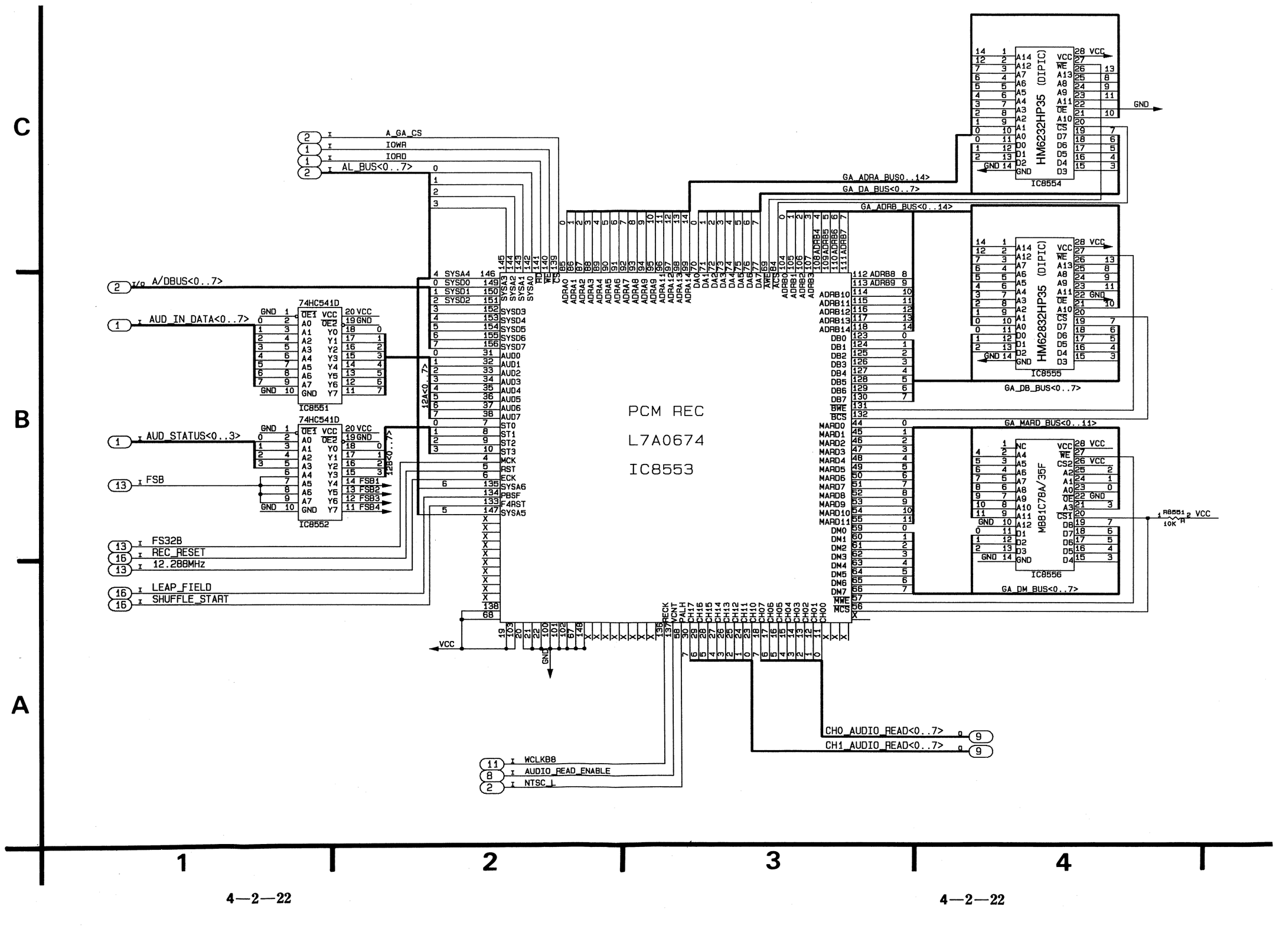
# L2 VIDEO/AUDIO REC (PARALLEL TO SERIAL) SCHEMATIC DIAGRAM (11/19)






4—2—21

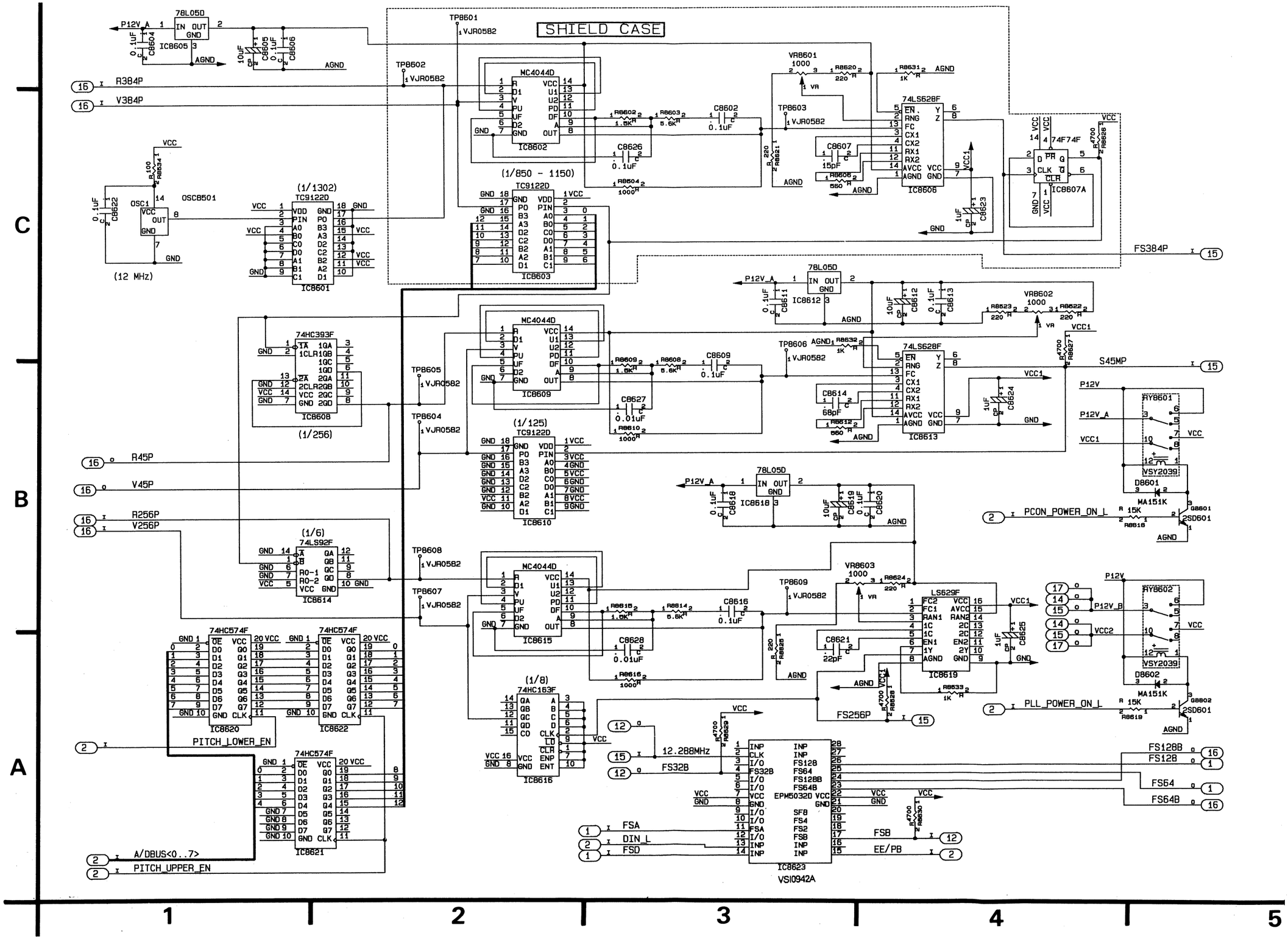
# L2 VIDEO/AUDIO REC (AUDIO REC) SCHEMATIC DIAGRAM (12/19)






4—2—22

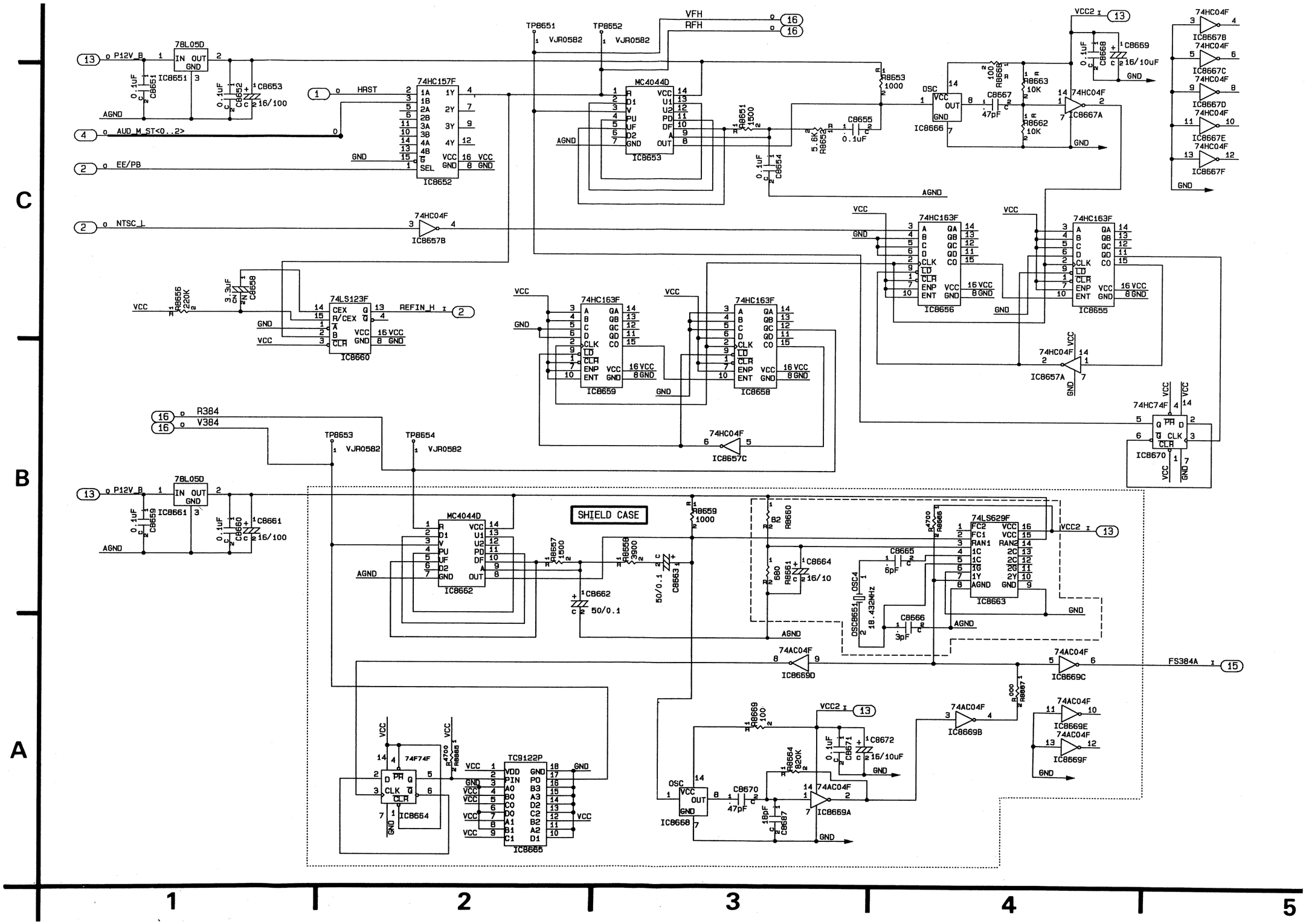
# L2 VIDEO/AUDIO REC (PITCH CON CK) SCHEMATIC DIAGRAM (13/19)






4—2—23

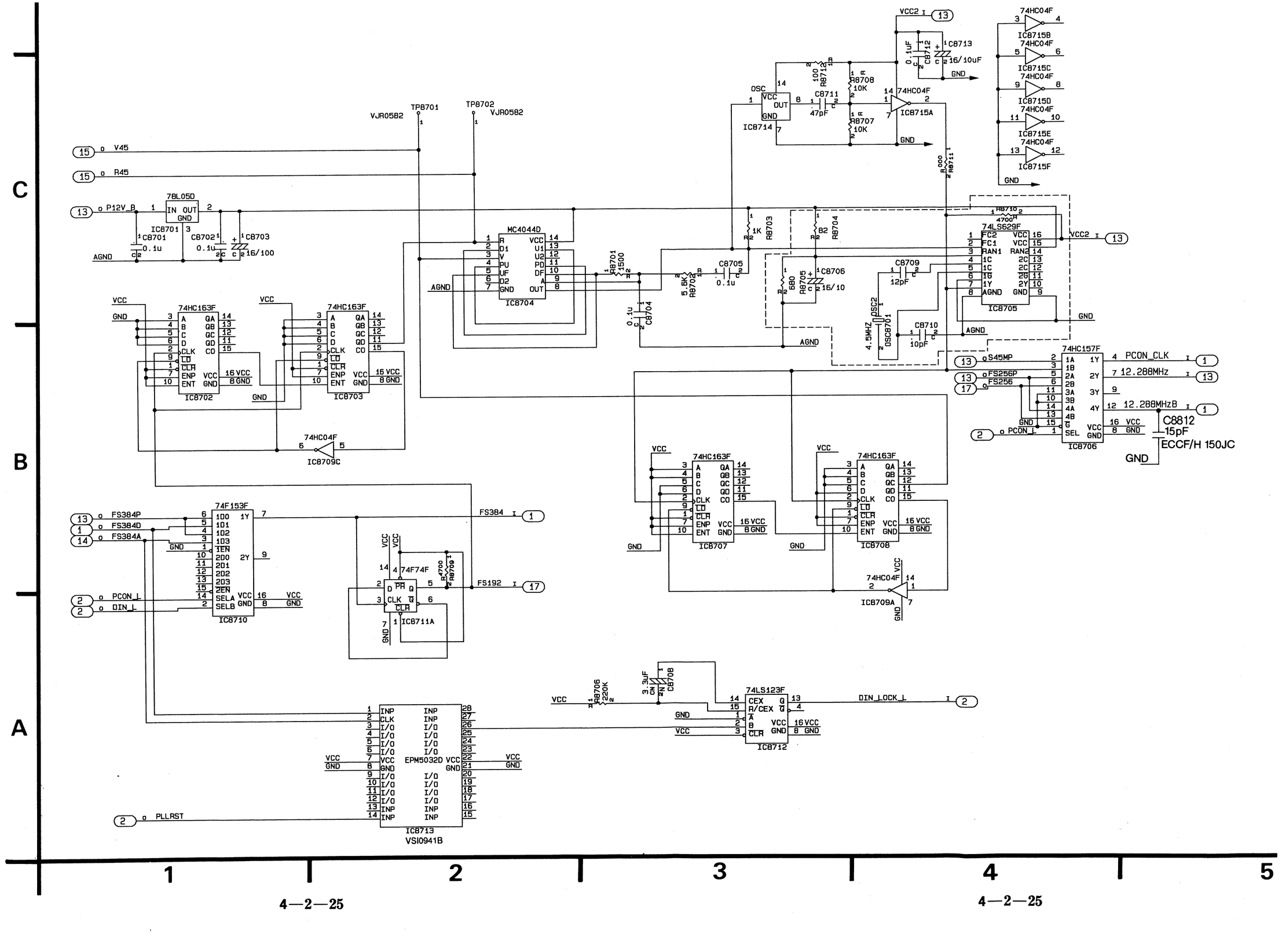
# L2 VIDEO/AUDIO REC (AUDIO REC) SCHEMATIC DIAGRAM (14/19)






4—2—24

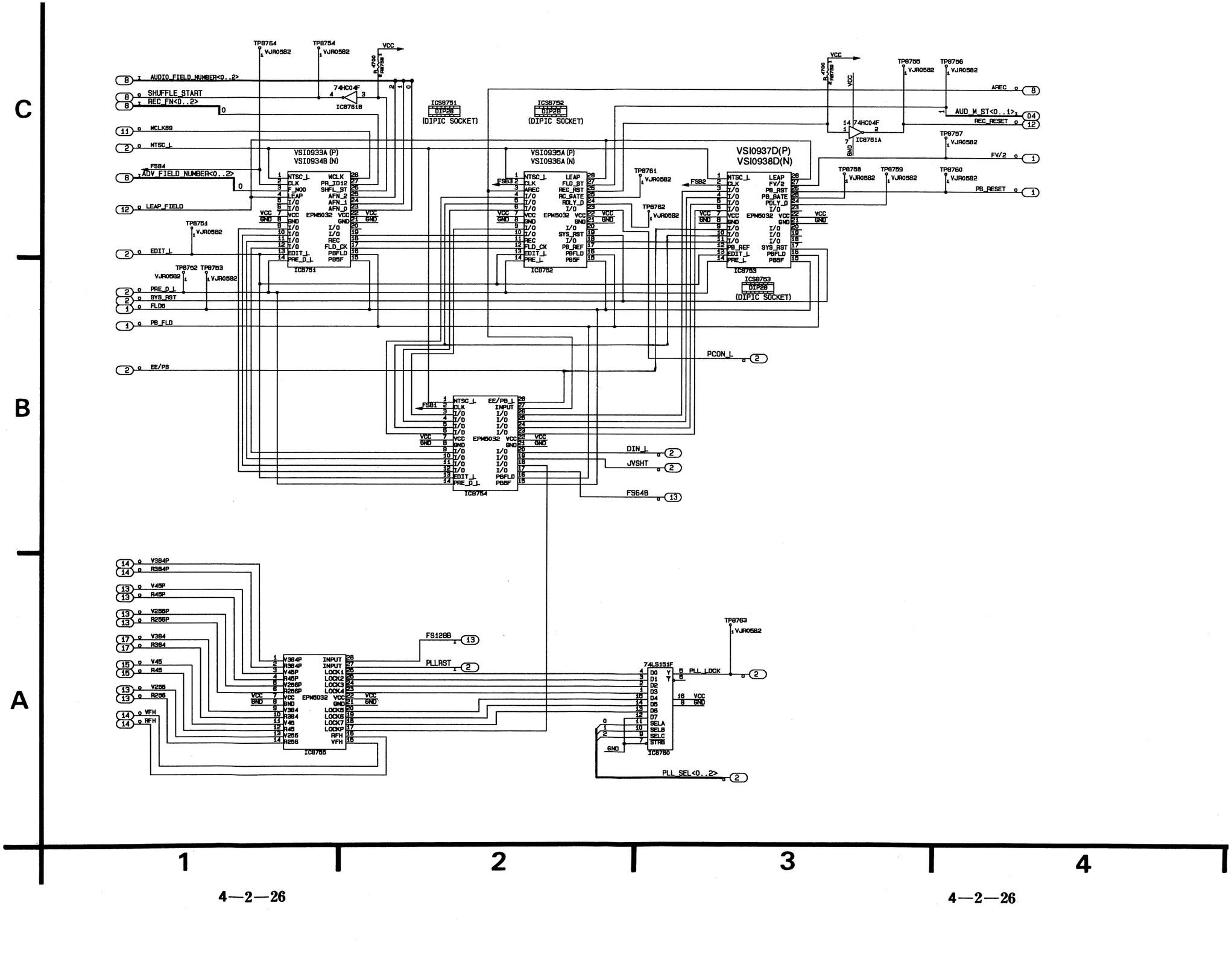
# L2 VIDEO/AUDIO REC (AUDIO REC) SCHEMATIC DIAGRAM (15/19)






4—2—25

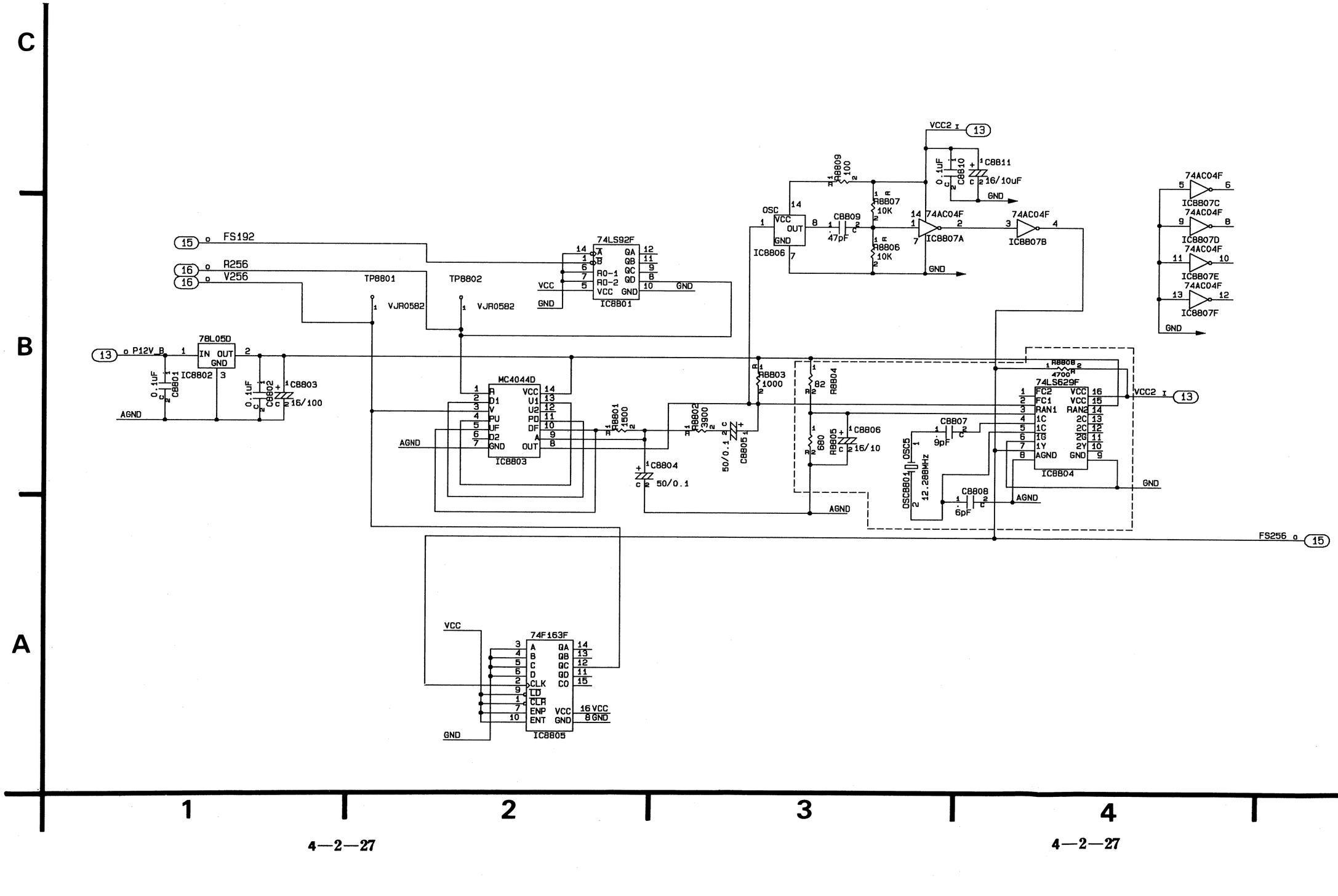
# L2 VIDEO/AUDIO REC (RST CNT) SCHEMATIC DIAGRAM (16/19)




4—2—26

4—2—26

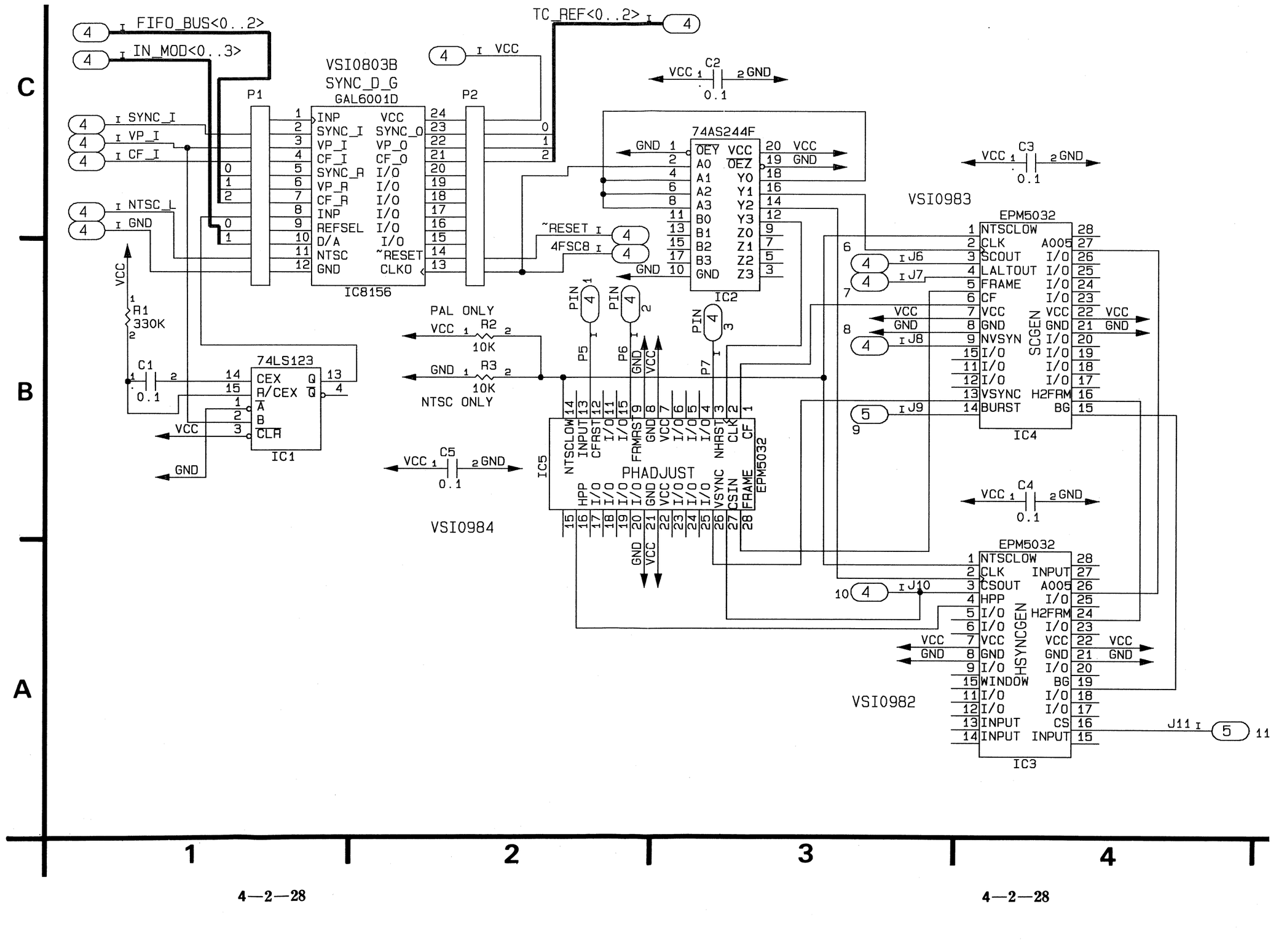
# L2 VIDEO/AUDIO REC (AUDIO REC) SCHEMATIC DIAGRAM (17/19)






4—2—27

# L2 VIDEO/AUDIO REC SUB (D SYNC SEP) SCHEMATIC DIAGRAM (18/19)





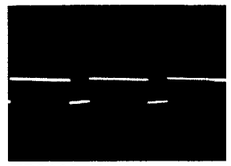

4—2—28

NTSC

## L2 WAVEFORMS NTSC

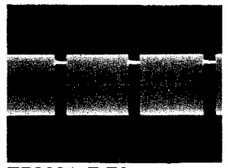
TP8154 E-E2
2V/20msec. div.

TP8162 E-E2
2V/20µsec. div.


TP8206 E-E2
5V/20msec. div.

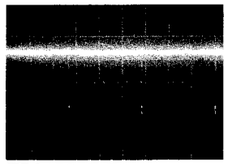
TP8351 E-E2
2V/5msec. div.

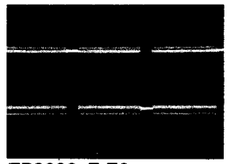
TP8155 E-E2
2V/10msec. div.


TP8201 E-E2
2V/20µsec. div.

TP8207 E-E2
2V/5µsec. div.

TP8352 E-E2
2V/5msec. div.

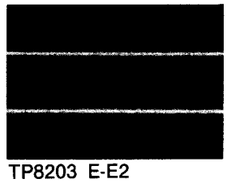

TP8156 E-E2
2V/20µsec. div.

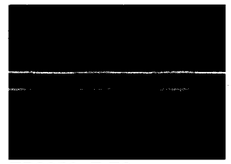

TP8202 E-E2
2V/20µsec. div.

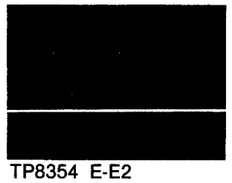
TP8251 E-E2
2V/5µsec. div.

TP8353 E-E2
2V/5msec. div.

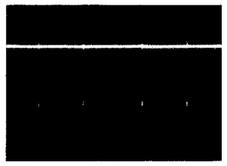
TP8159 E-E2
2V/20msec. div.

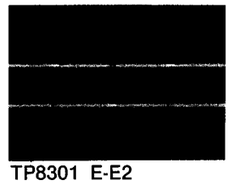

TP8203 E-E2
2V/20µsec. div.


TP8252 E-E2
5V/10msec. div.

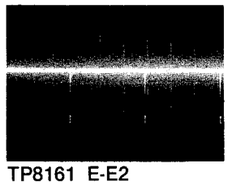

TP8354 E-E2
2V/2msec. div.

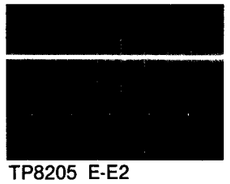
TP8160 E-E2
2V/5msec. div.

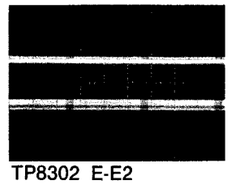

TP8204 E-E2
2V/10µsec. div.

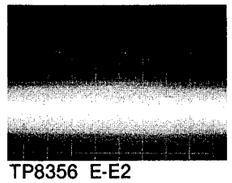

TP8301 E-E2
2V/5µsec. div.

TP8355 E-E2
2V/2msec. div.


TP8161 E-E2
2V/20µsec. div.


TP8205 E-E2
2V/10msec. div.

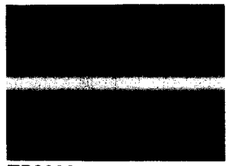

TP8302 E-E2
2V/20µsec. div.

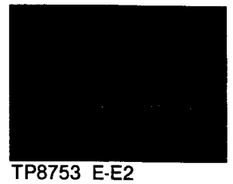

TP8356 E-E2
2V/2msec. div.

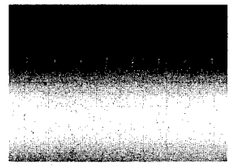
## L2 WAVEFORMS NTSC

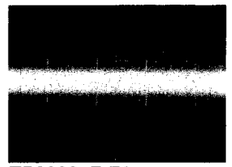
TP8357 E-E2
2V/2msec. div.

TP8602 E-E2
2V/50µsec. div.

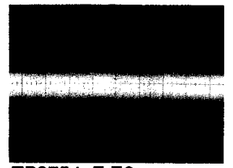

TP8608 E-E2
100mV/10µsec. div.

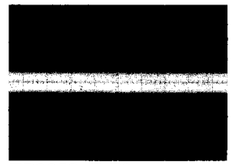

TP8753 E-E2
2V/20msec. div.

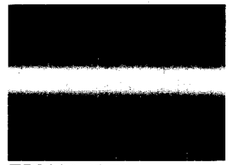

TP8358 E-E2
2V/5msec. div.


TP8603 E-E2
100mV/10µsec. div.

TP8609 E-E2
100mV/20µsec. div.

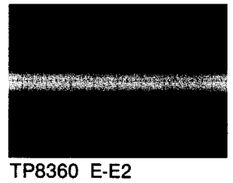

TP8754 E-E2
(TP8755)
50mV/20µsec. div.

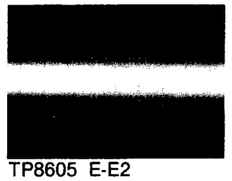

TP8359 E-E2
200mV/20µsec. div.

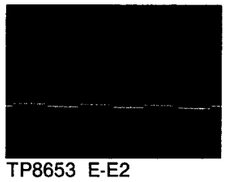

TP8604 E-E2
50mV/10µsec. div.

TP8651 E-E2
(TP8652)
2V/20µsec. div.

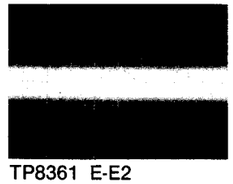
TP8756 E-E2
2V/5msec. div.

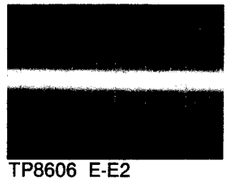

TP8360 E-E2
50mV/20µsec. div.

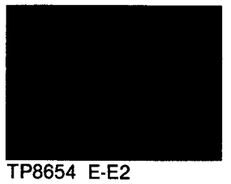

TP8605 E-E2
50mV/10µsec. div.

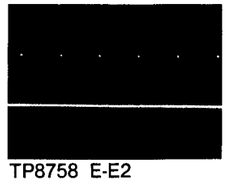

TP8653 E-E2
2V/10µsec. div.

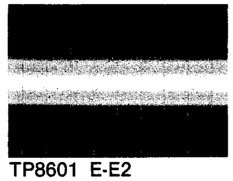
TP8757 E-E2
2V/10msec. div.


TP8361 E-E2
100mV/200µsec. div.

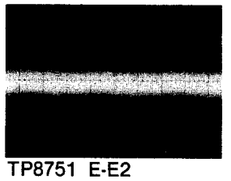

TP8606 E-E2
100mV/10µsec. div.

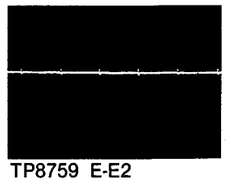

TP8654 E-E2
(TP8701, TP8702)
2V/10µsec. div.


TP8758 E-E2
2V/10msec. div.


TP8601 E-E2
100mV/20µsec. div.

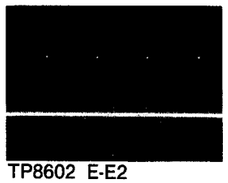
TP8607 E-E2
100mV/10µsec. div.


TP8751 E-E2
(TP8752)
50mV/20µsec. div.

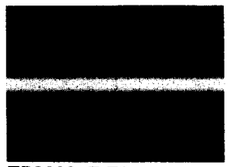

TP8759 E-E2
2V/10msec. div.

## L2 WAVEFORMS NTSC

TP8357 E-E2
2V/2msec. div.



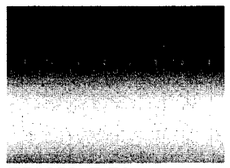
TP8602 E-E2
2V/50µsec. div.



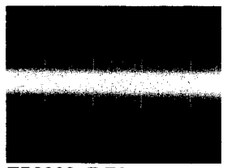
TP8608 E-E2
100mV/10µsec. div.

TP8753 E-E2
2V/20msec. div.

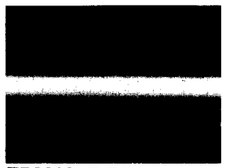
TP8760 E-E2
200mV/10msec. div.



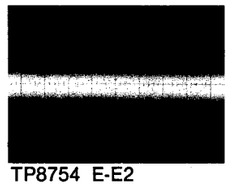
TP8358 E-E2
2V/5msec. div.



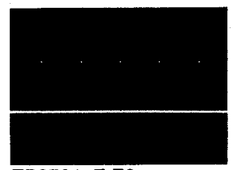
TP8603 E-E2
100mV/10µsec. div.



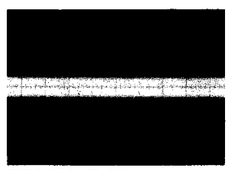
TP8609 E-E2
100mV/20µsec. div.



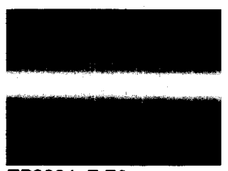
TP8754 E-E2
(TP8755)
50mV/20µsec. div.



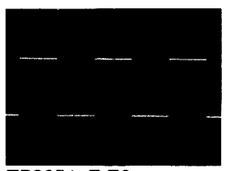
TP8761 E-E2
2V/10msec. div.



TP8359 E-E2
200mV/20µsec. div.



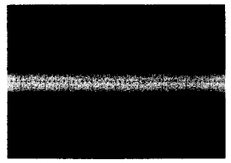
TP8604 E-E2
50mV/10µsec. div.



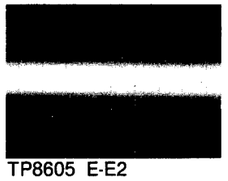
TP8651 E-E2
(TP8652)
2V/20µsec. div.

TP8756 E-E2
2V/5msec. div.

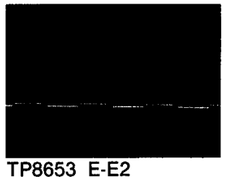
TP8762 E-E2
2V/20msec. div.



TP8360 E-E2
50mV/20µsec. div.

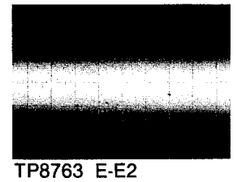


TP8605 E-E2
50mV/10µsec. div.

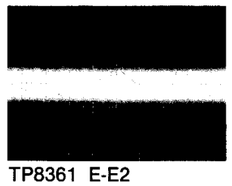


TP8653 E-E2
2V/10µsec. div.

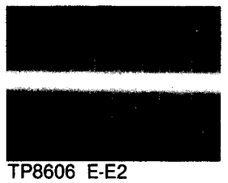
TP8757 E-E2
2V/10msec. div.



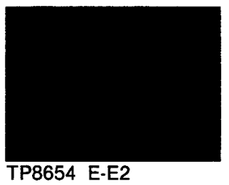
TP8763 E-E2
20mV/20µsec. div.



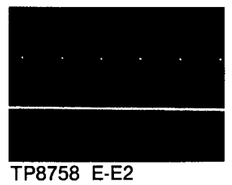
TP8361 E-E2
100mV/200µsec. div.



TP8606 E-E2
100mV/10µsec. div.

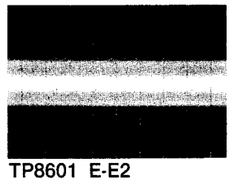


TP8654 E-E2
(TP8701, TP8702)
2V/10µsec. div.



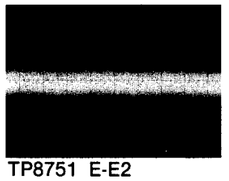
TP8758 E-E2
2V/10msec. div.

TP8764 E-E2
2V/10µsec. div.

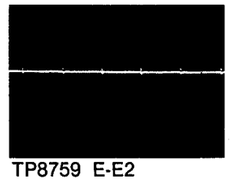


TP8601 E-E2
100mV/20µsec. div.

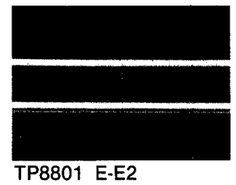
TP8607 E-E2
100mV/10µsec. div.



TP8751 E-E2
(TP8752)
50mV/20µsec. div.



TP8759 E-E2
2V/10msec. div.

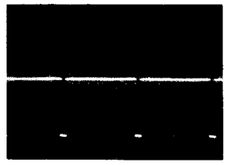


TP8801 E-E2
(TP8802)
2V/20µsec. div.

PAL

## L2 WAVEFORMS PAL

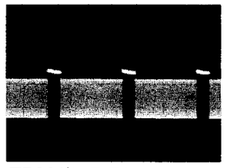
TP8154 E-E2
2V/20msec. div.

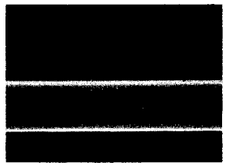

TP8162 E-E2
2V/20µsec. div.

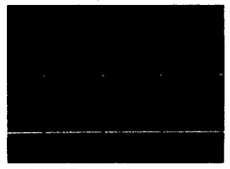
TP8206 E-E2
2V/20msec. div.

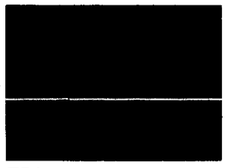
TP8353 E-E2
(TP8354)
2V/2msec. div.

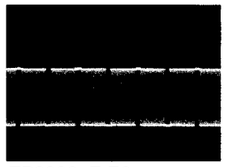
TP8155 E-E2
2V/10msec. div.

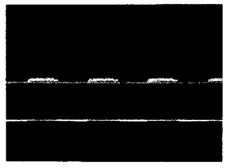

TP8201 E-E2
2V/20µsec. div.

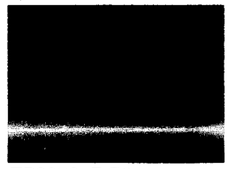

TP8207 E-E2
2V/20µsec. div.

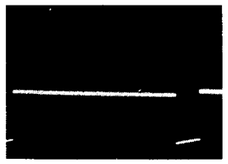

TP8355 E-E2
2V/2msec. div.

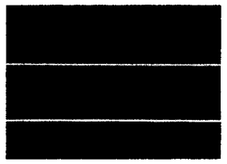

TP8156 E-E2
1V/20µsec. div.

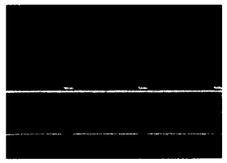

TP8202 E-E2
2V/50µsec. div.

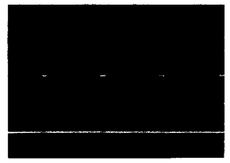

TP8251 E-E2
(TP8301)
2V/50µsec. div.

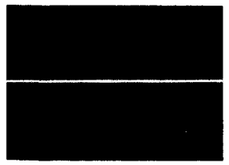

TP8356 E-E2
2V/2msec. div.


TP8159 E-E2
2V/20msec. div.


TP8203 E-E2
2V/50µsec. div.

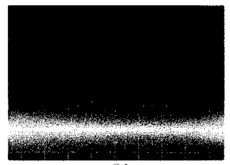

TP8252 E-E2
(TP8302)
2V/20µsec. div.

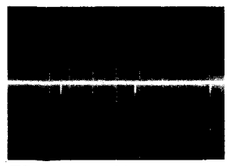

TP8357 E-E2
2V/2msec. div.

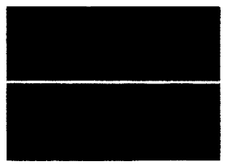

TP8160 E-E2
2V/10msec. div.

TP8204 E-E2
2V/20µsec. div.

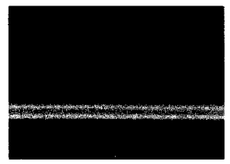
TP8351 E-E2
(TP8353)
2V/5msec. div.


TP8358 E-E2
2V/2msec. div.

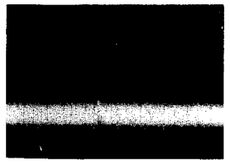

TP8161 E-E2
2V/20µsec. div.


TP8205 E-E2
2V/10msec. div.

TP8352 E-E2
2V/5msec. div.


TP8359 E-E2
200mV/20µsec. div.

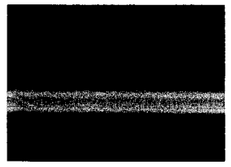
## L2 WAVEFORMS PAL

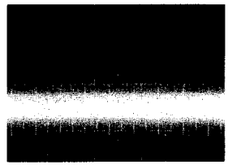

TP8360 E-E2
20mV/20µsec. div.

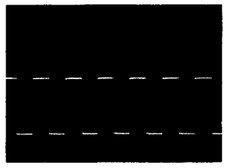
TP8605 E-E2
20mV/10µsec. div.

TP8653 E-E2
2V/20µsec. div.

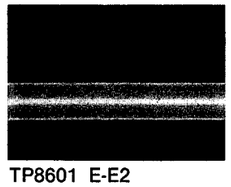
TP8757 E-E2
2V/10msec. div.

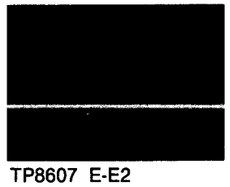

TP8361 E-E2
100mV/200µsec. div.

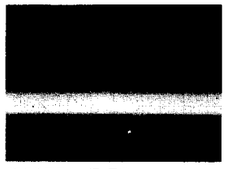

TP8606 E-E2
50mV/20µsec. div.

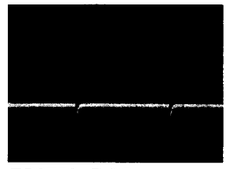

TP8654 E-E2
(TP8701, TP8702)
2V/20µsec. div.

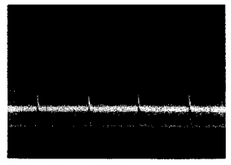
TP8758 E-E2
2V/10msec. div.

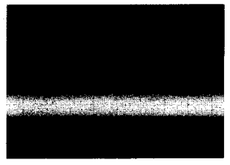

TP8601 E-E2
100mV/20µsec. div.


TP8607 E-E2
(TP8608)
20mV/20µsec. div.

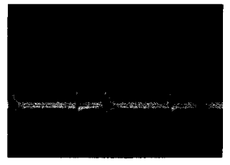

TP8751 E-E2
(TP8752)
50mV/20µsec. div.

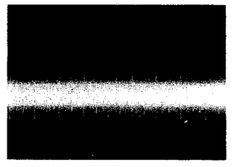

TP8759 E-E2
200mV/5msec. div.

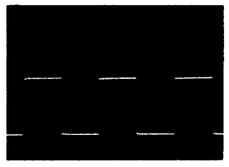

TP8602 E-E2
20mV/50µsec. div.

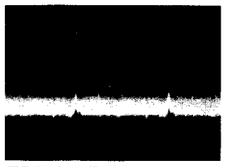

TP8609 E-E2
50mV/20µsec. div.

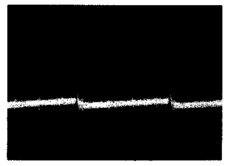
TP8753 E-E2
200mV/10µsec. div.


TP8760 E-E2
200mV/5msec. div.


TP8603 E-E2
50mV/20µsec. div.

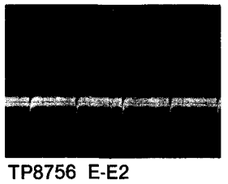

TP8651 E-E2
2V/20µsec. div.

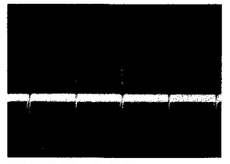

TP8754 E-E2
(TP8755)
50mV/5msec. div.


TP8761 E-E2
20mV/5msec. div.

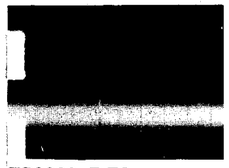
TP8604 E-E2
50mV/50µsec. div.

TP8652 E-E2
2V/20µsec. div.


TP8756 E-E2
200mV/10msec. div.


TP8762 E-E2
200mV/10msec. div.

## 2 WAVEFORMS PAL

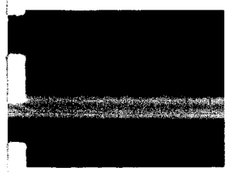


TP8360 E-E2
20mV/20µsec. div.

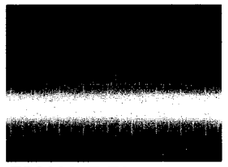
TP8605 E-E2
20mV/10µsec. div.

TP8653 E-E2
2V/20µsec. div.

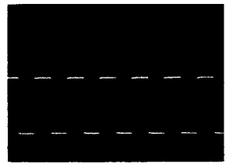
TP8757 E-E2
2V/10msec. div.



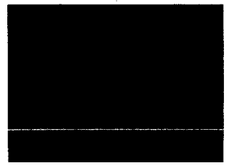
P8361 E-E2
100mV/200µsec. div.



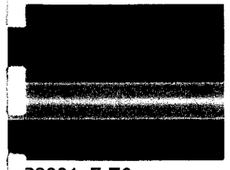
TP8606 E-E2
50mV/20µsec. div.



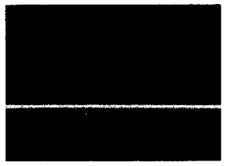
TP8654 E-E2
(TP8701, TP8702)
2V/20µsec. div.



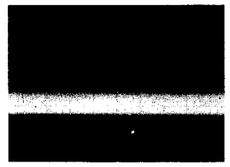
TP8758 E-E2
2V/10msec. div.



P8601 E-E2
.0mV/20µsec. div.

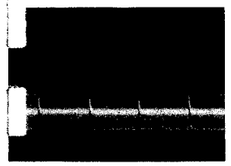


TP8607 E-E2
(TP8608)
20mV/20µsec. div.

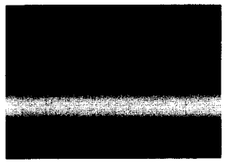


TP8751 E-E2
(TP8752)
50mV/20µsec. div.

TP8759 E-E2
200mV/5msec. div.

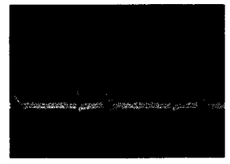


P8602 E-E2
)mV/50µsec. div.

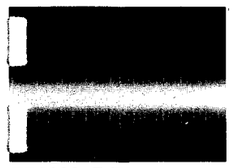


TP8609 E-E2
50mV/20µsec. div.

TP8753 E-E2
200mV/10µsec. div.

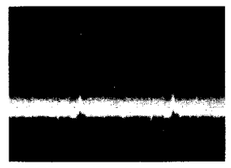


TP8760 E-E2
200mV/5msec. div.

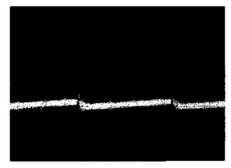


TP8603 E-E2
)mV/20µsec. div.

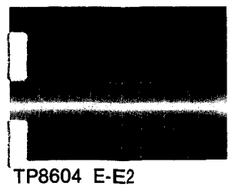
TP8651 E-E2
2V/20µsec. div.



TP8754 E-E2
(TP8755)
50mV/5msec. div.

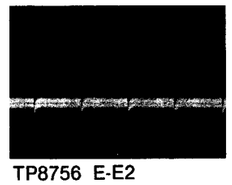


TP8761 E-E2
20mV/5msec. div.

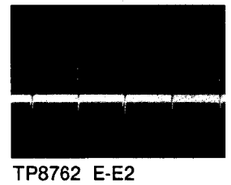


TP8604 E-E2
50mV/50µsec. div.

TP8652 E-E2
2V/20µsec. div.



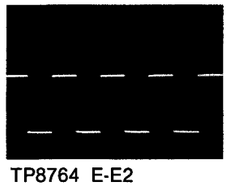
TP8756 E-E2
200mV/10msec. div.



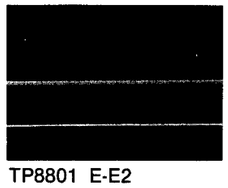
TP8762 E-E2
200mV/10msec. div.

## L2 WAVEFORMS PAL

TP8763 E-E2
20mV/20µsec. div.

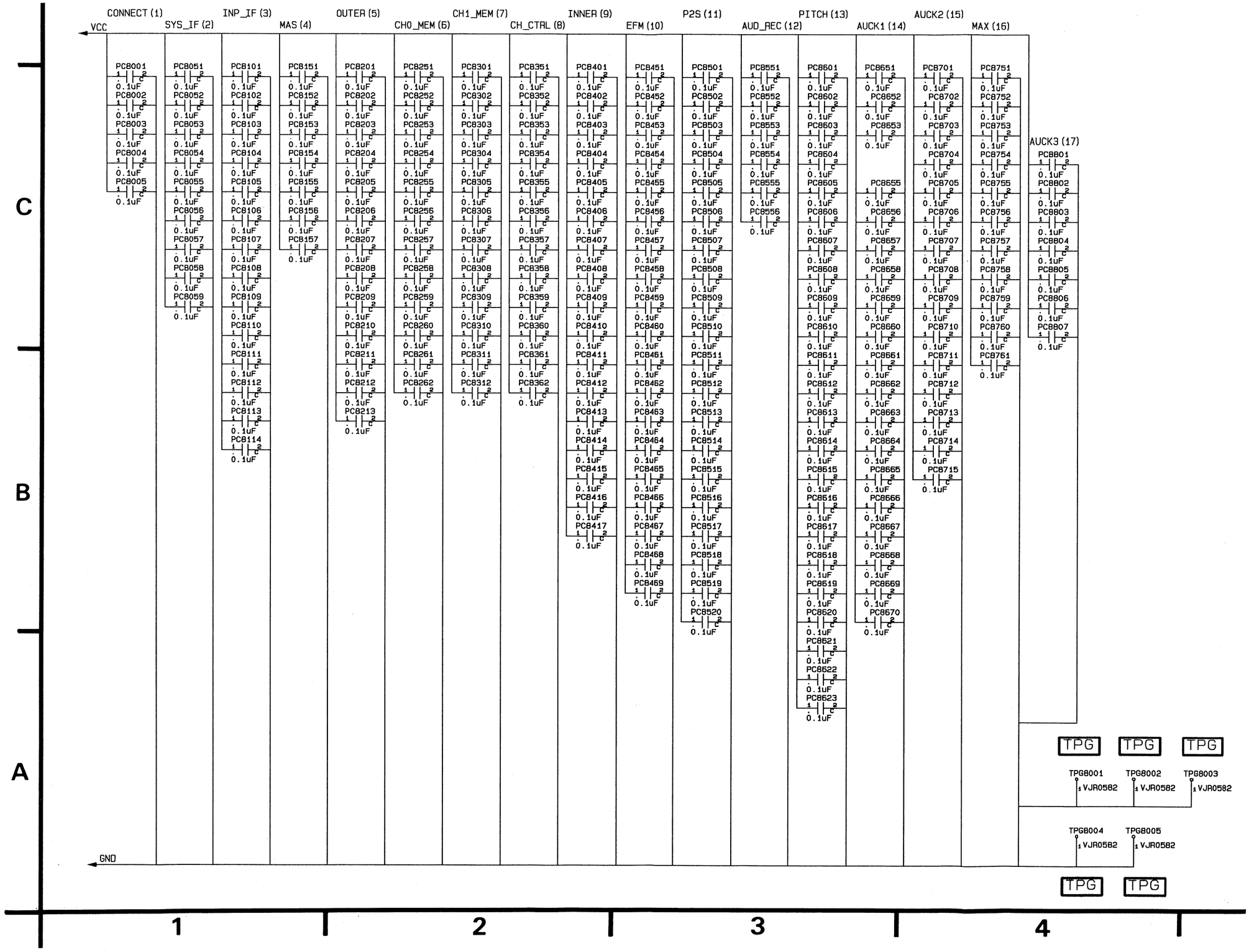


TP8764 E-E2
2V/10µsec. div.



TP8801 E-E2
(TP8802)
2V/20µsec. div.

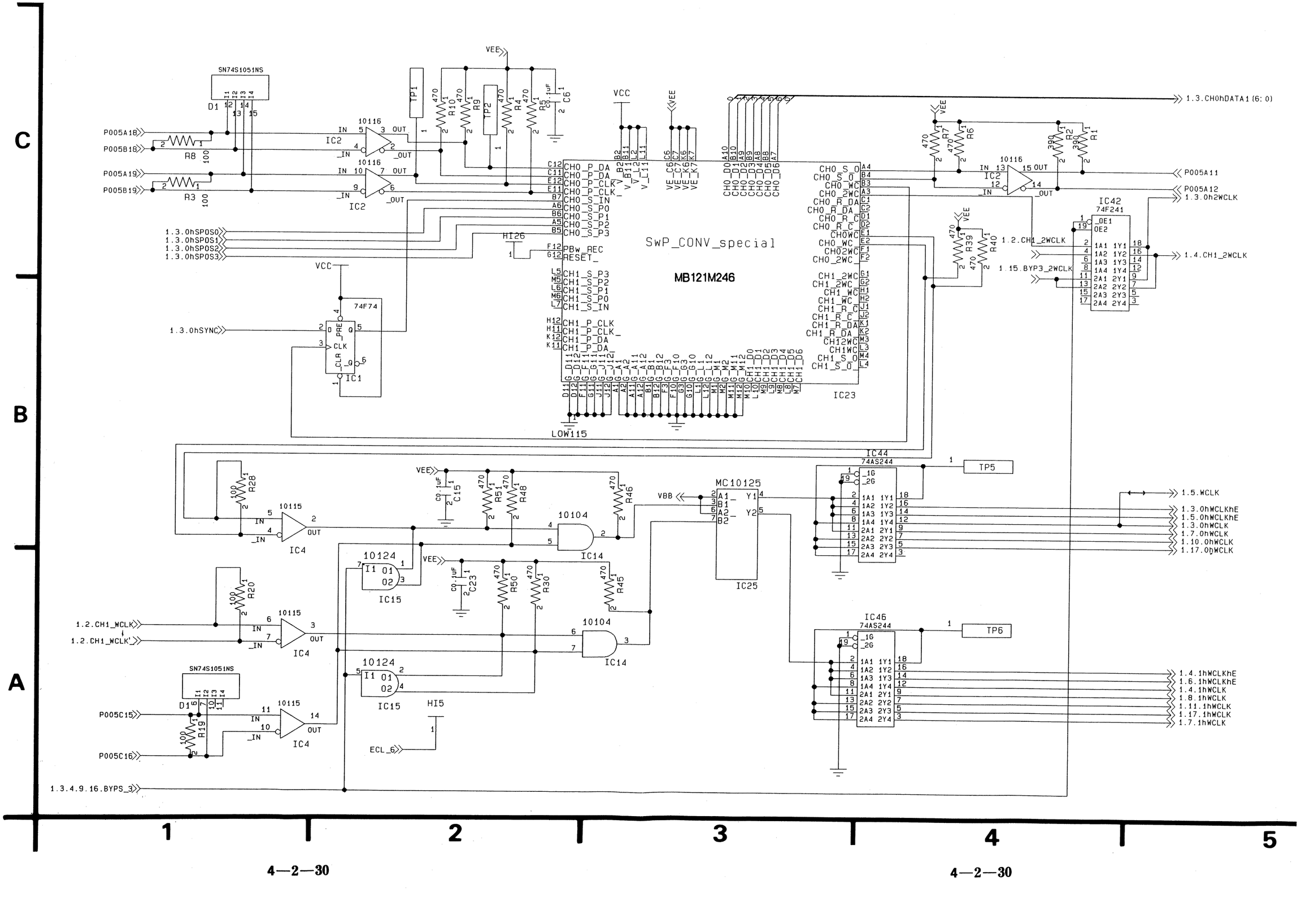
# L2 VIDEO/AUDIO REC (PASS CON) SCHEMATIC DIAGRAM (19/19)






4—2—29

# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (1/25)



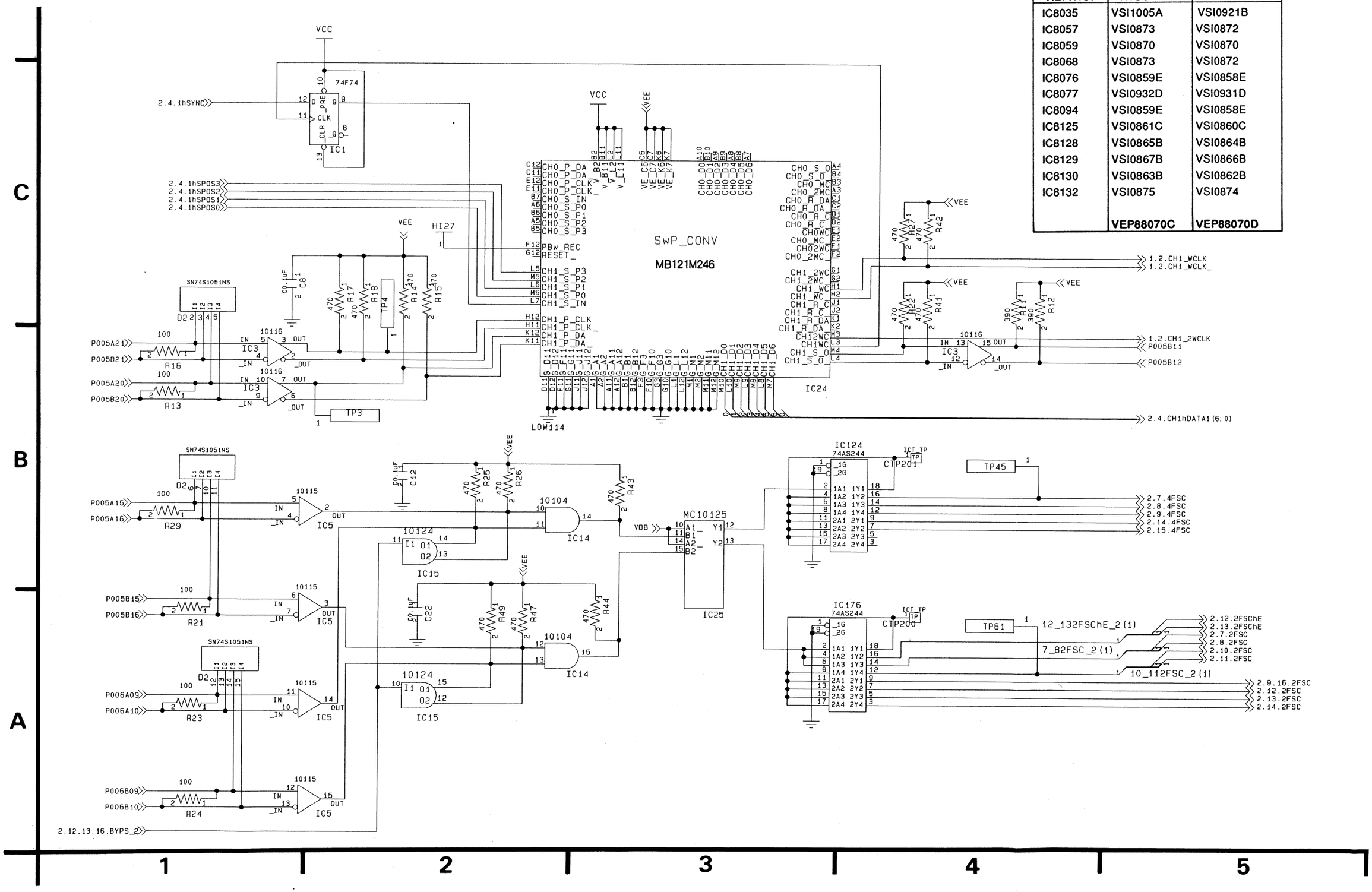



4—2—30

# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (2/25)

COMPARISON CHART BETWEEN
NTSC MODEL AND PAL MODEL
L3 VIDEO/AUDIO P.C.B.

| REF. NO. | NTSC | PAL |
|---|---|---|
| IC8035 | VSI1005A | VSI0921B |
| IC8057 | VSI0873 | VSI0872 |
| IC8059 | VSI0870 | VSI0870 |
| IC8068 | VSI0873 | VSI0872 |
| IC8076 | VSI0859E | VSI0858E |
| IC8077 | VSI0932D | VSI0931D |
| IC8094 | VSI0859E | VSI0858E |
| IC8125 | VSI0861C | VSI0860C |
| IC8128 | VSI0865B | VSI0864B |
| IC8129 | VSI0867B | VSI0866B |
| IC8130 | VSI0863B | VSI0862B |
| IC8132 | VSI0875 | VSI0874 |
| | **VEP88070C** | **VEP88070D** |




C

B

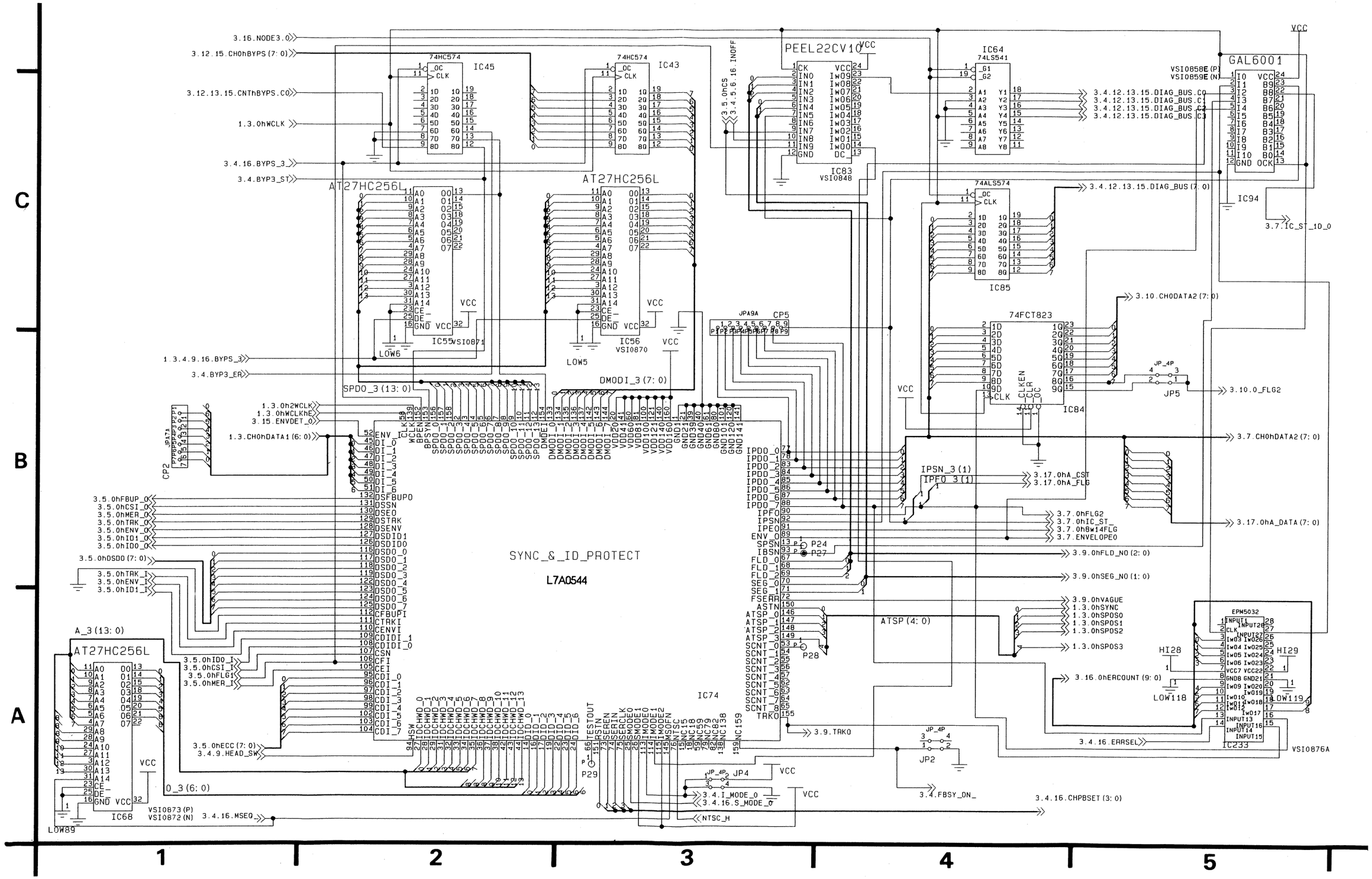
A

1 2 3 4 5



4—2—31

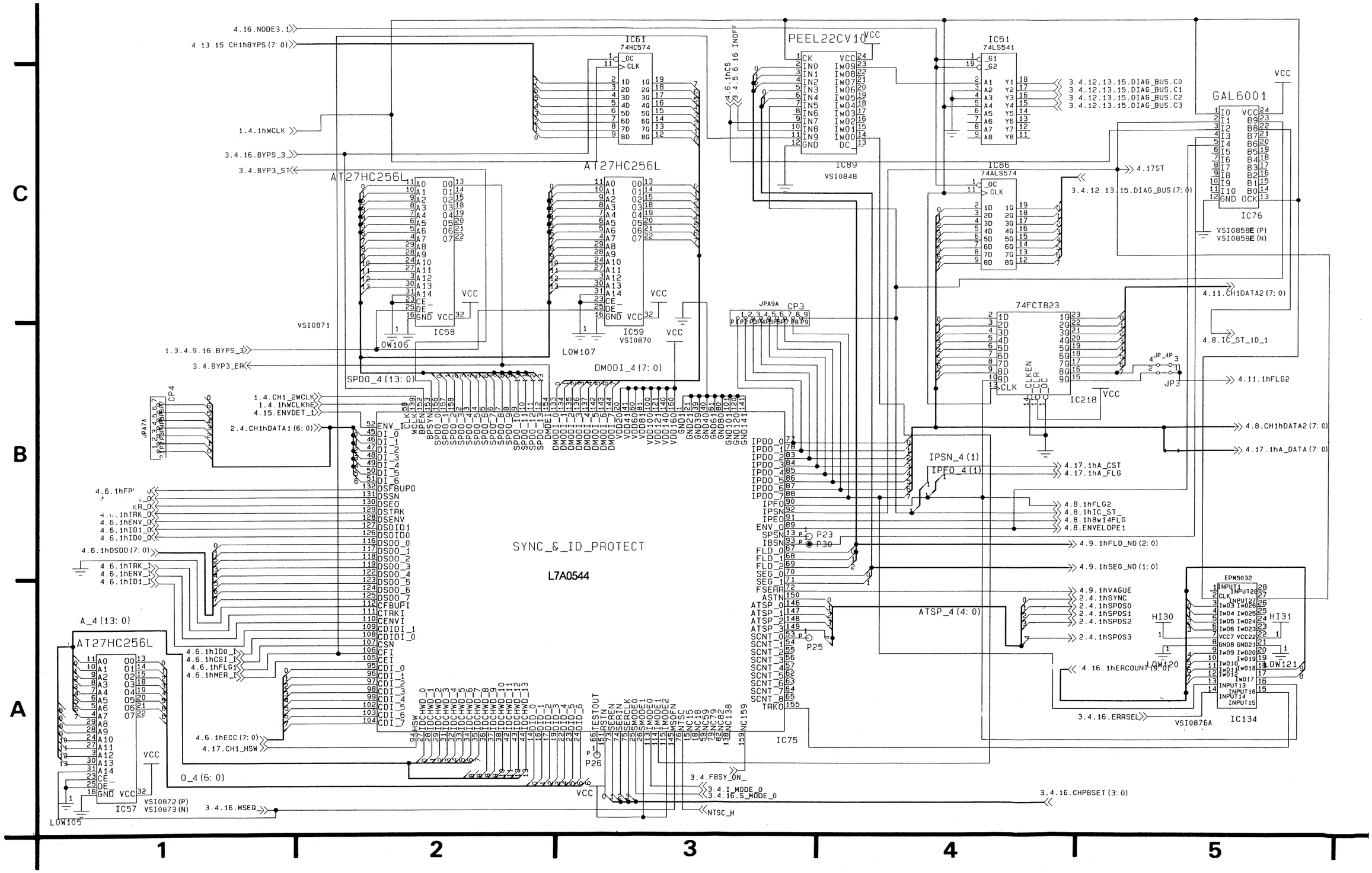
# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (3/25)






4—2—32

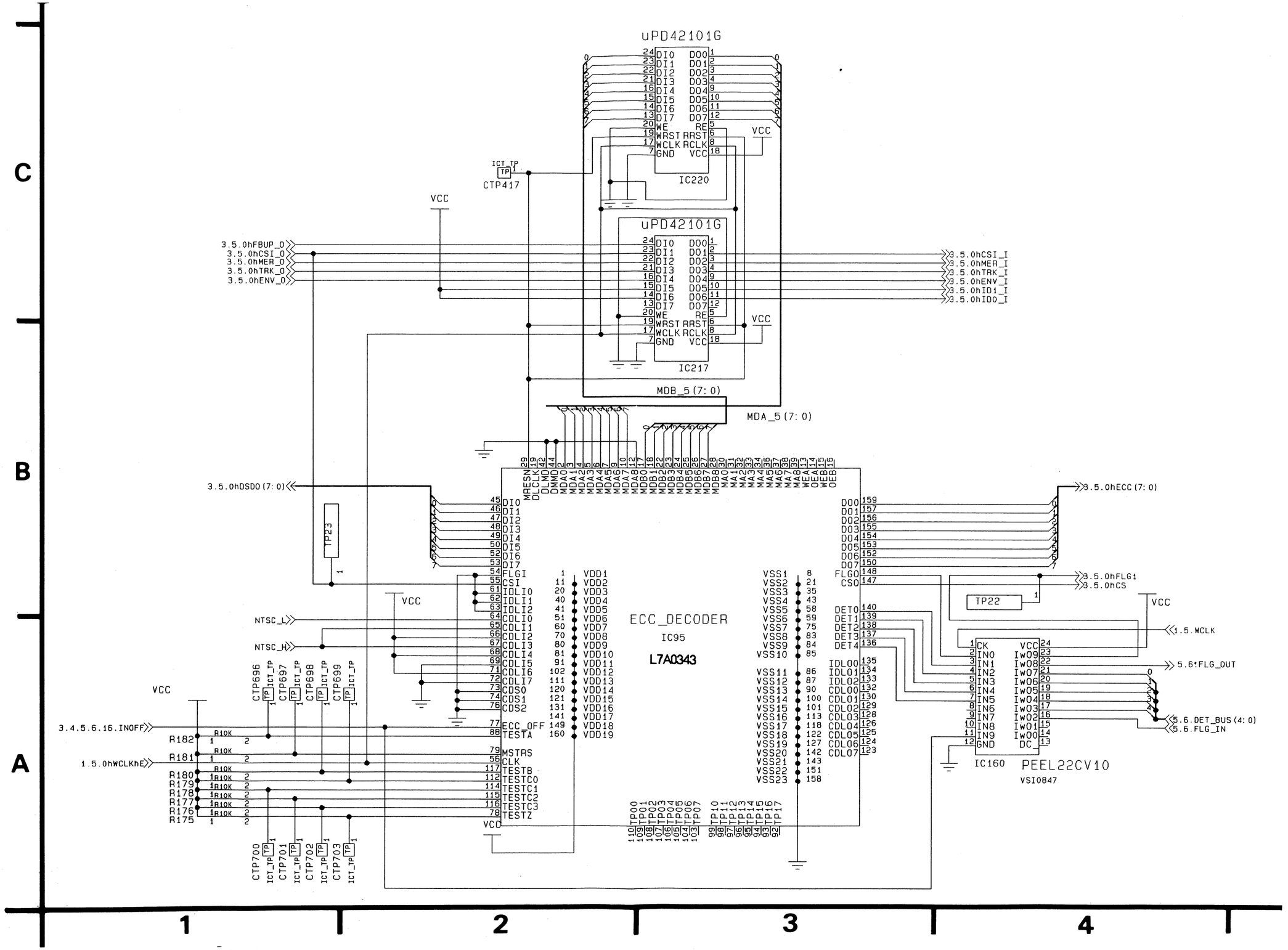
# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (4/25)






4—2—33

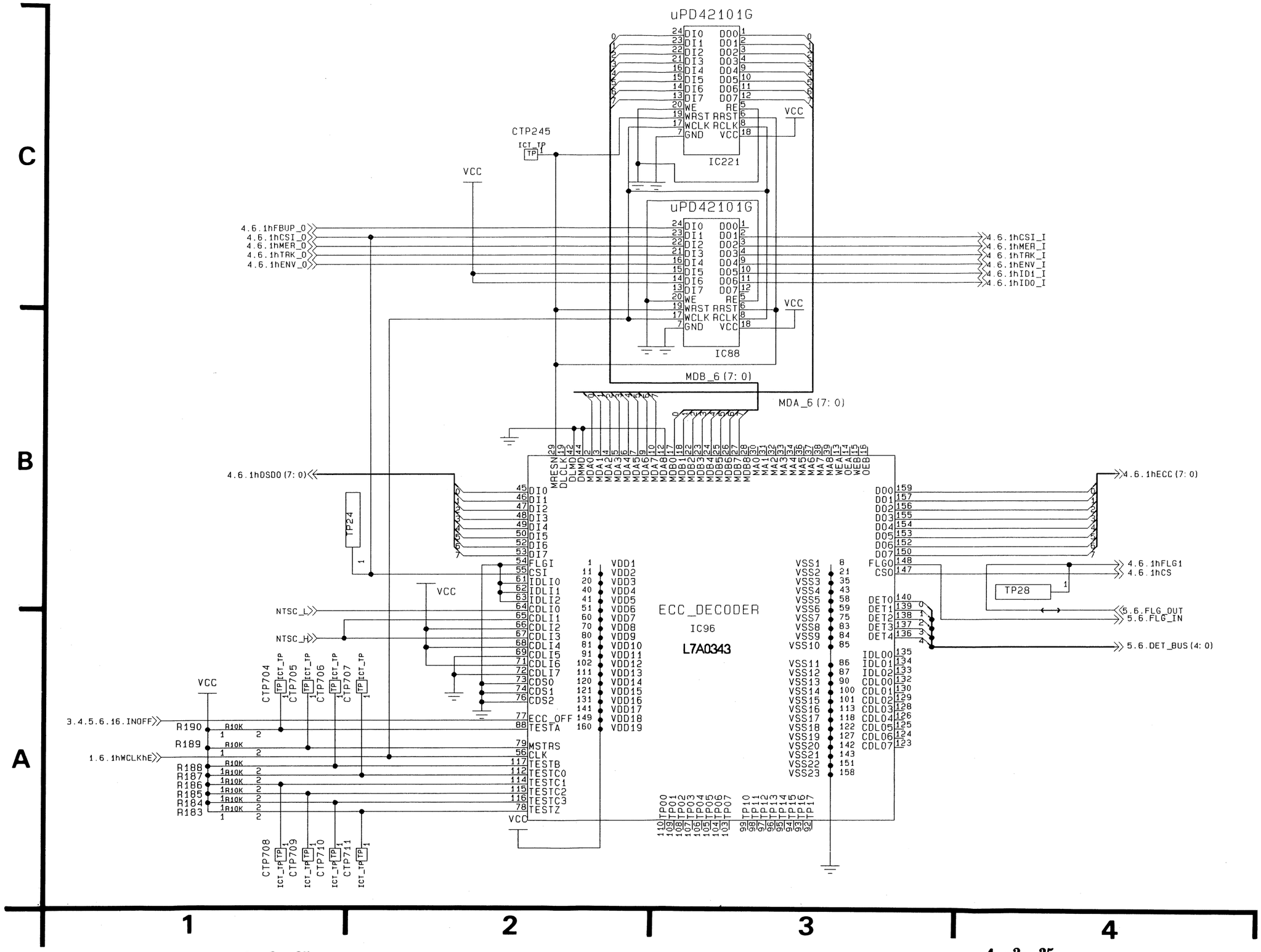
# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (5/25)



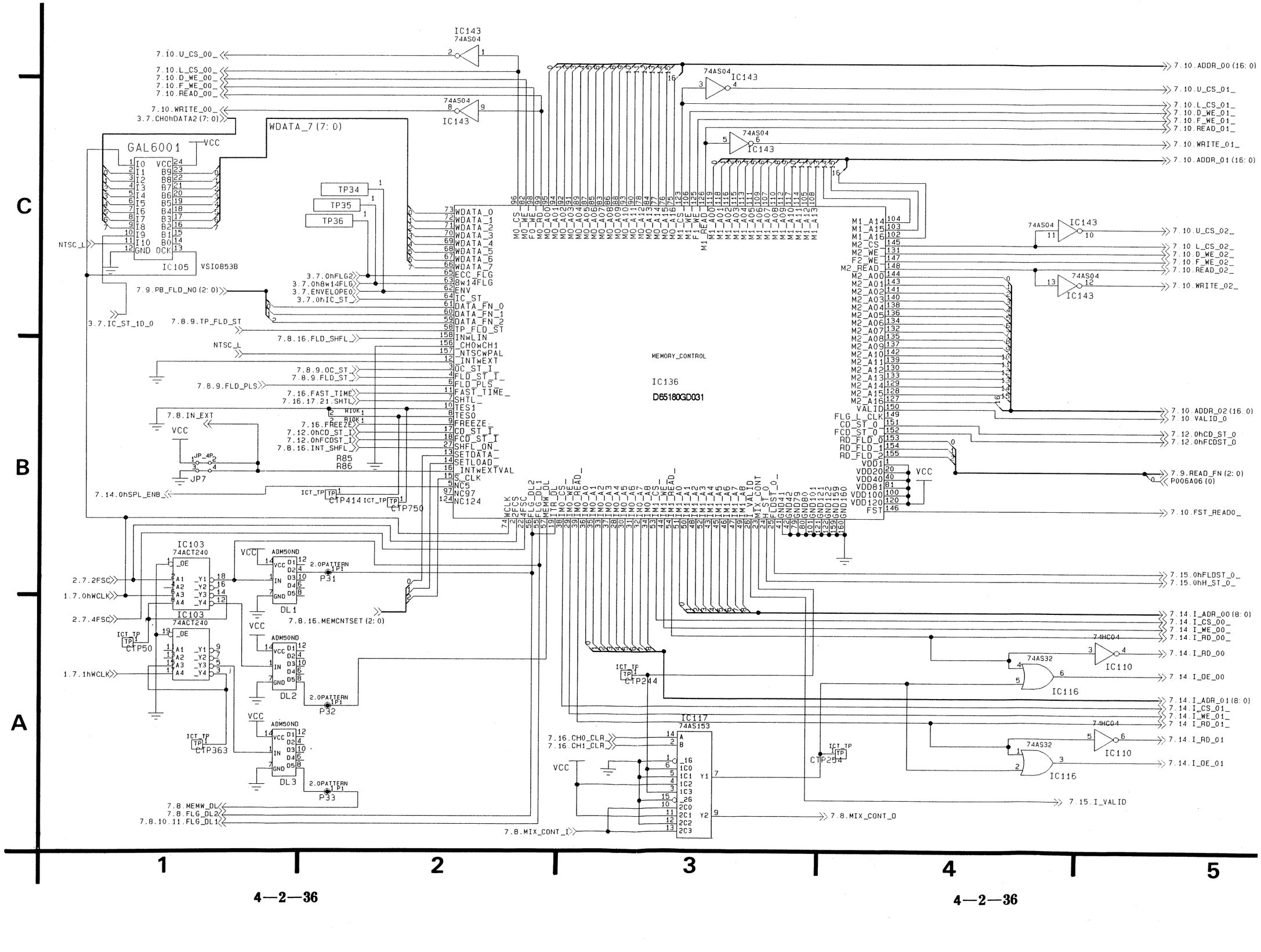

4—2—34

4—2—34

# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (6/25)



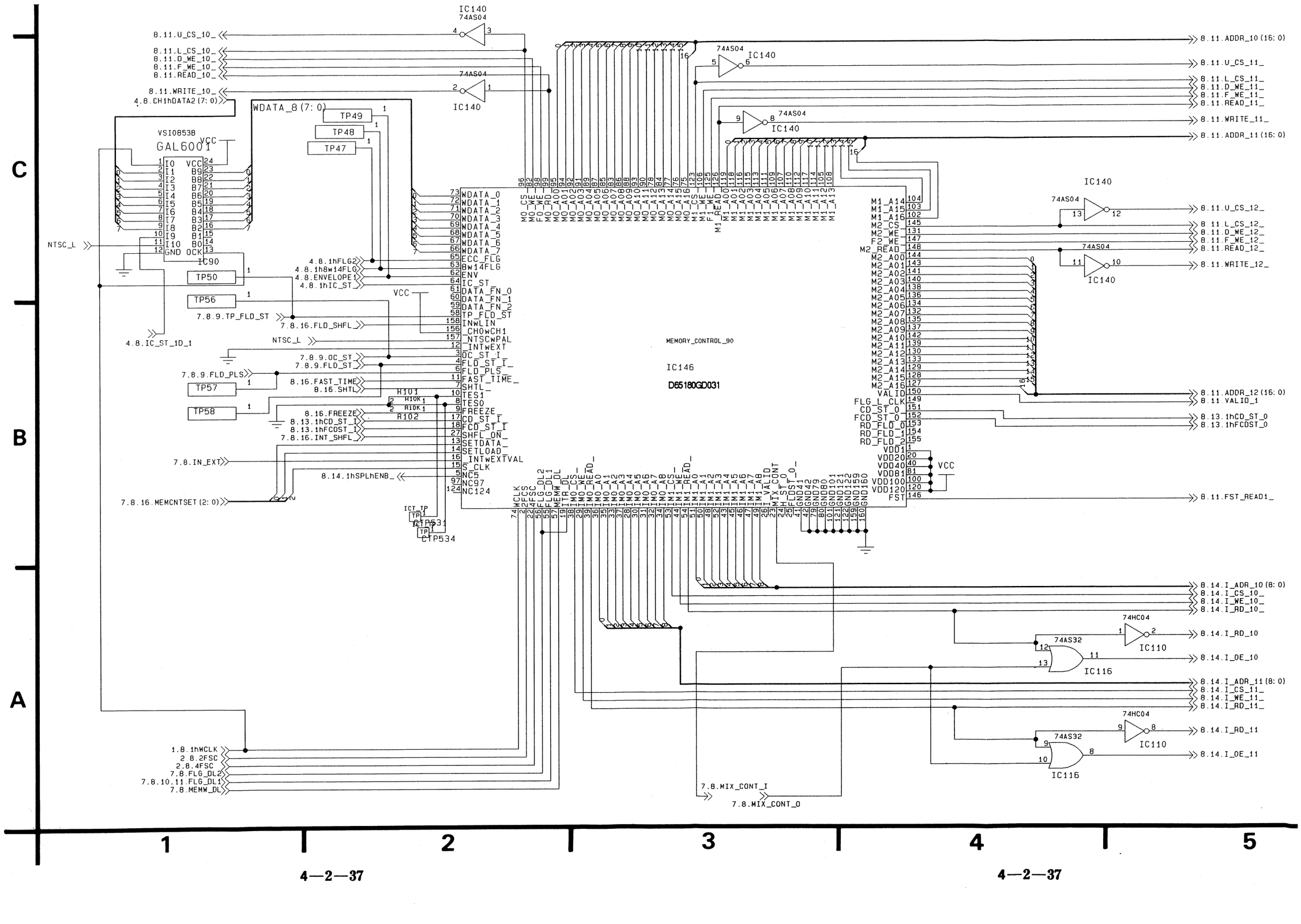
# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (7/25)






4—2—36

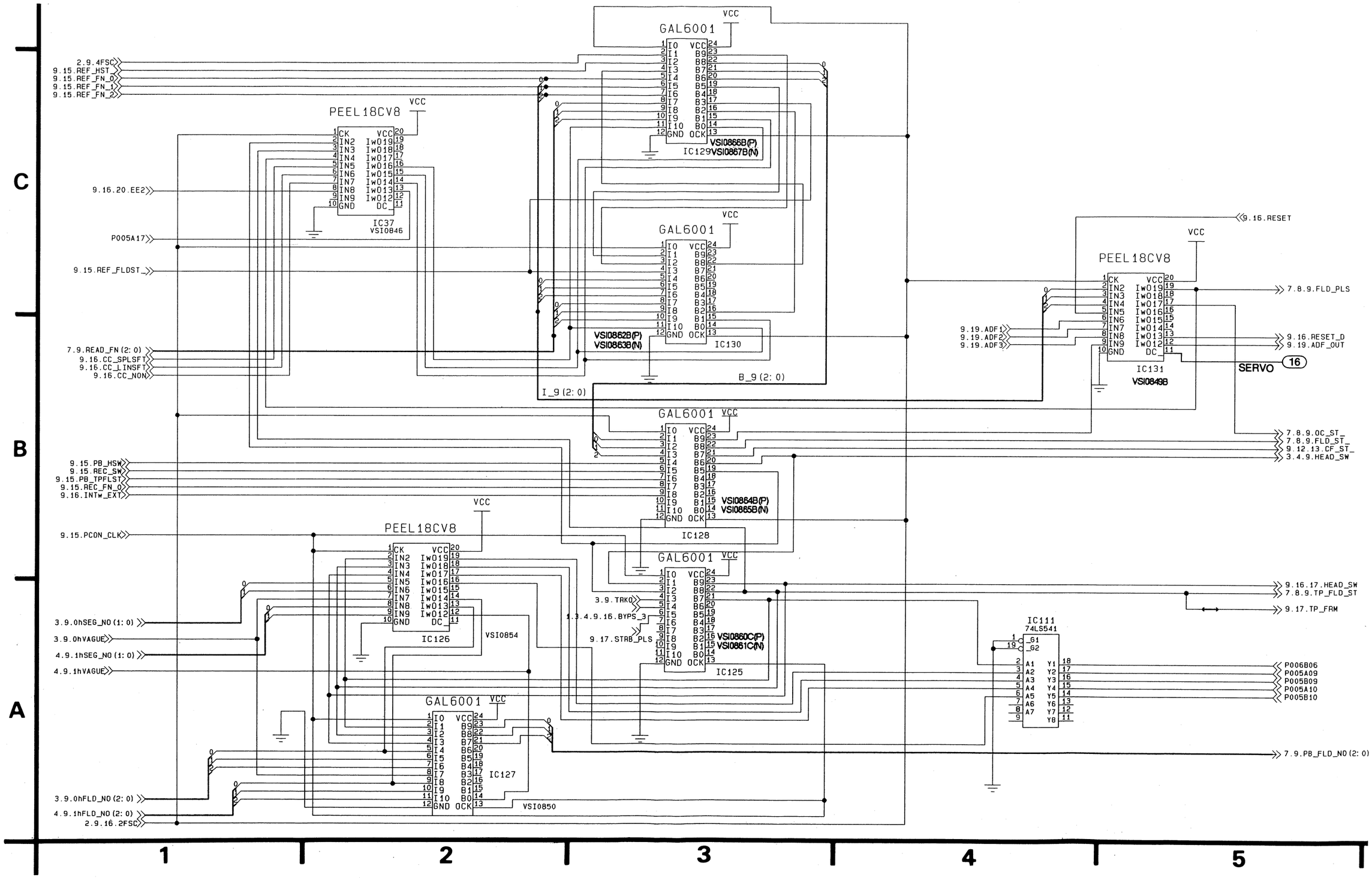
# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (8/25)






4—2—37

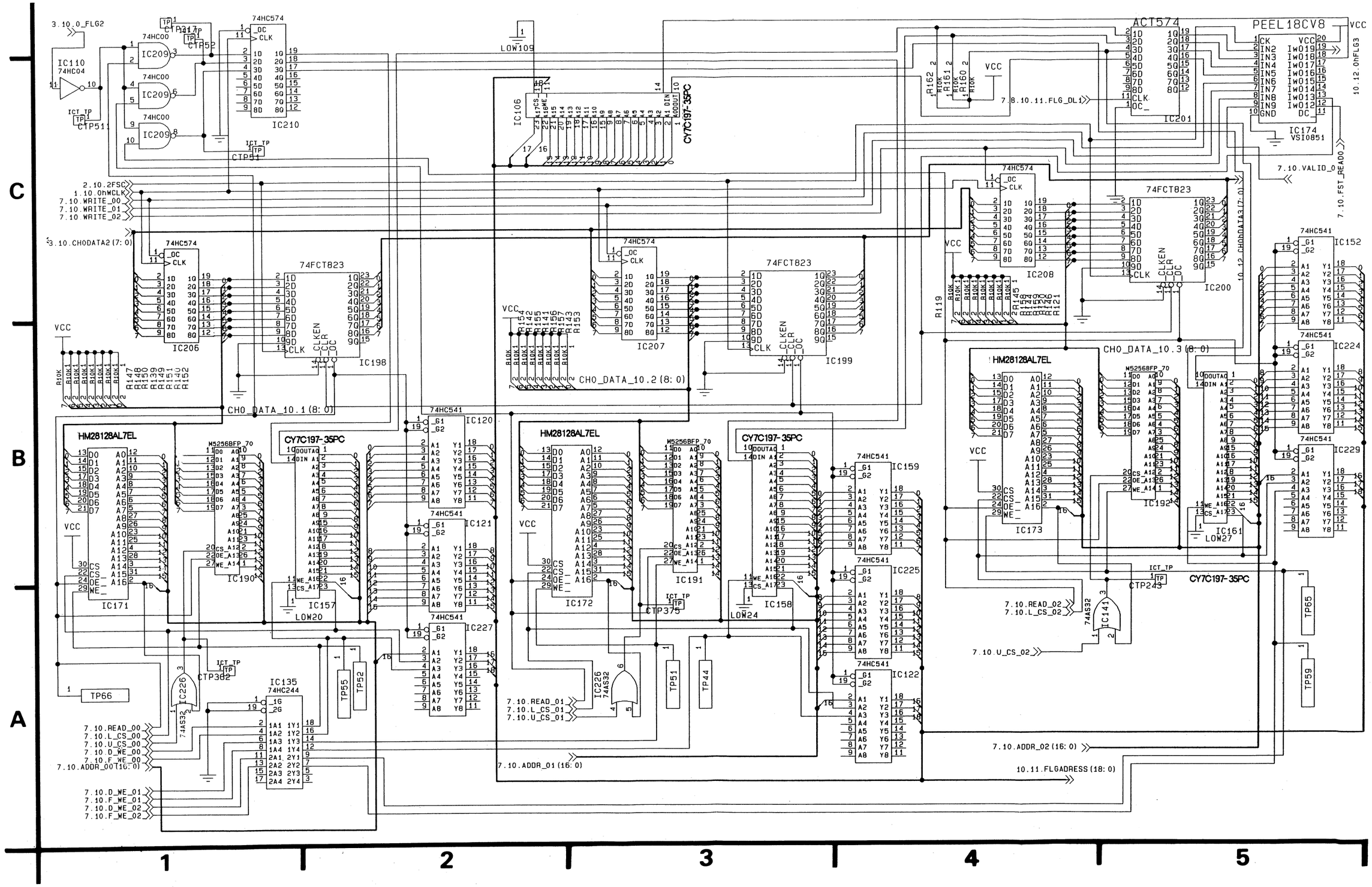
# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (9/25)






4—2—38

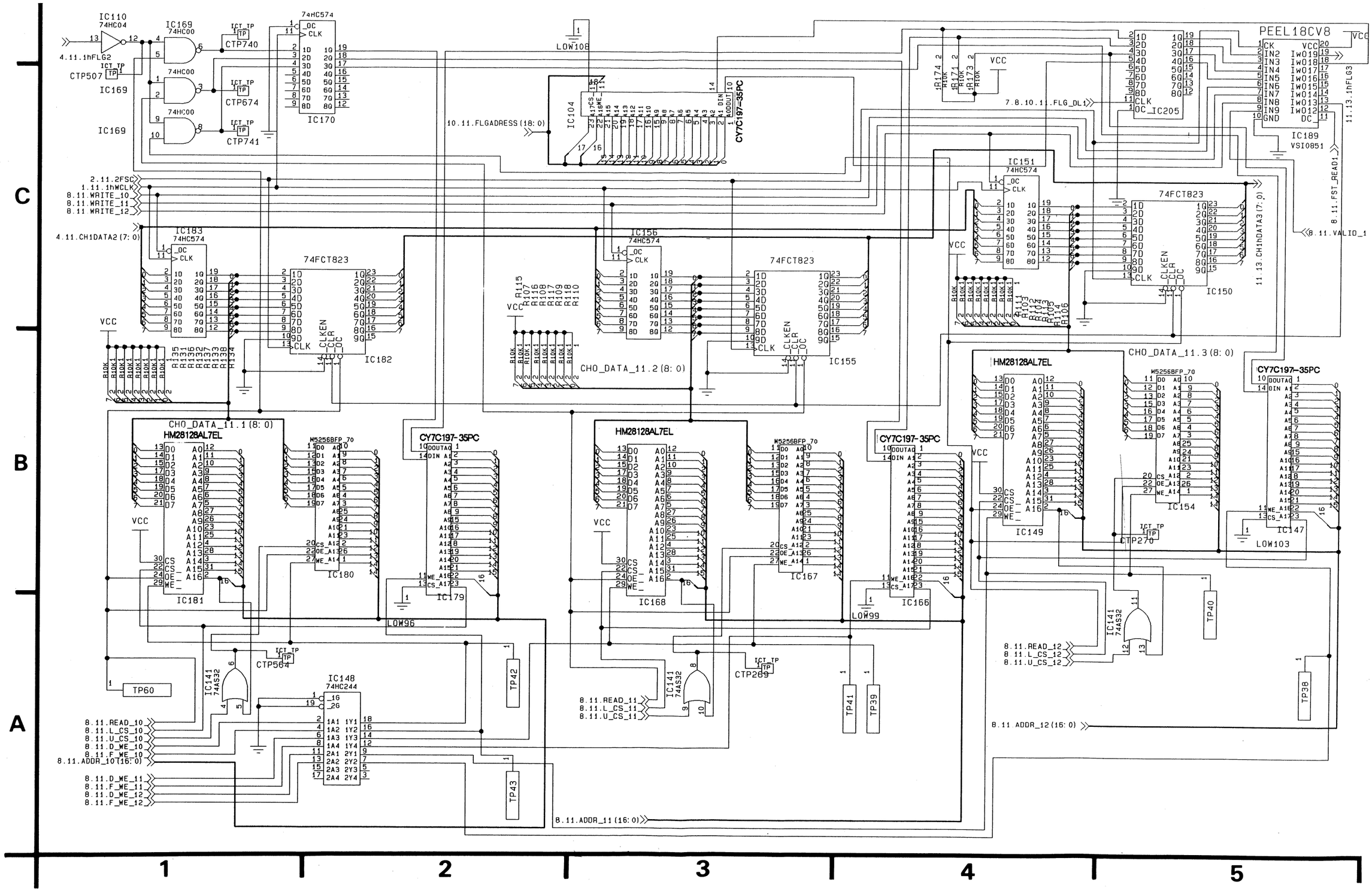
# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (10/25)






4—2—39

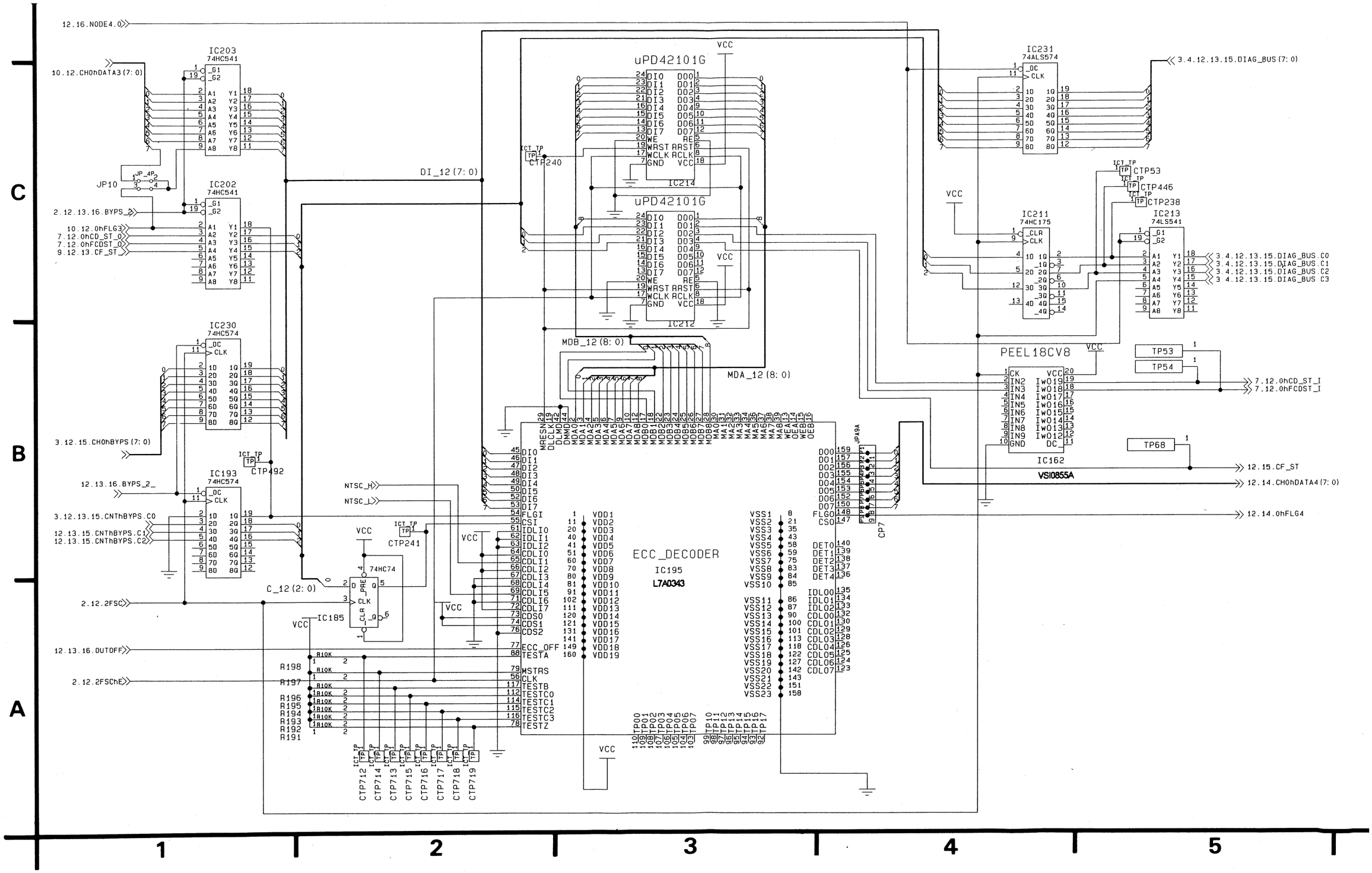
# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (11/25)



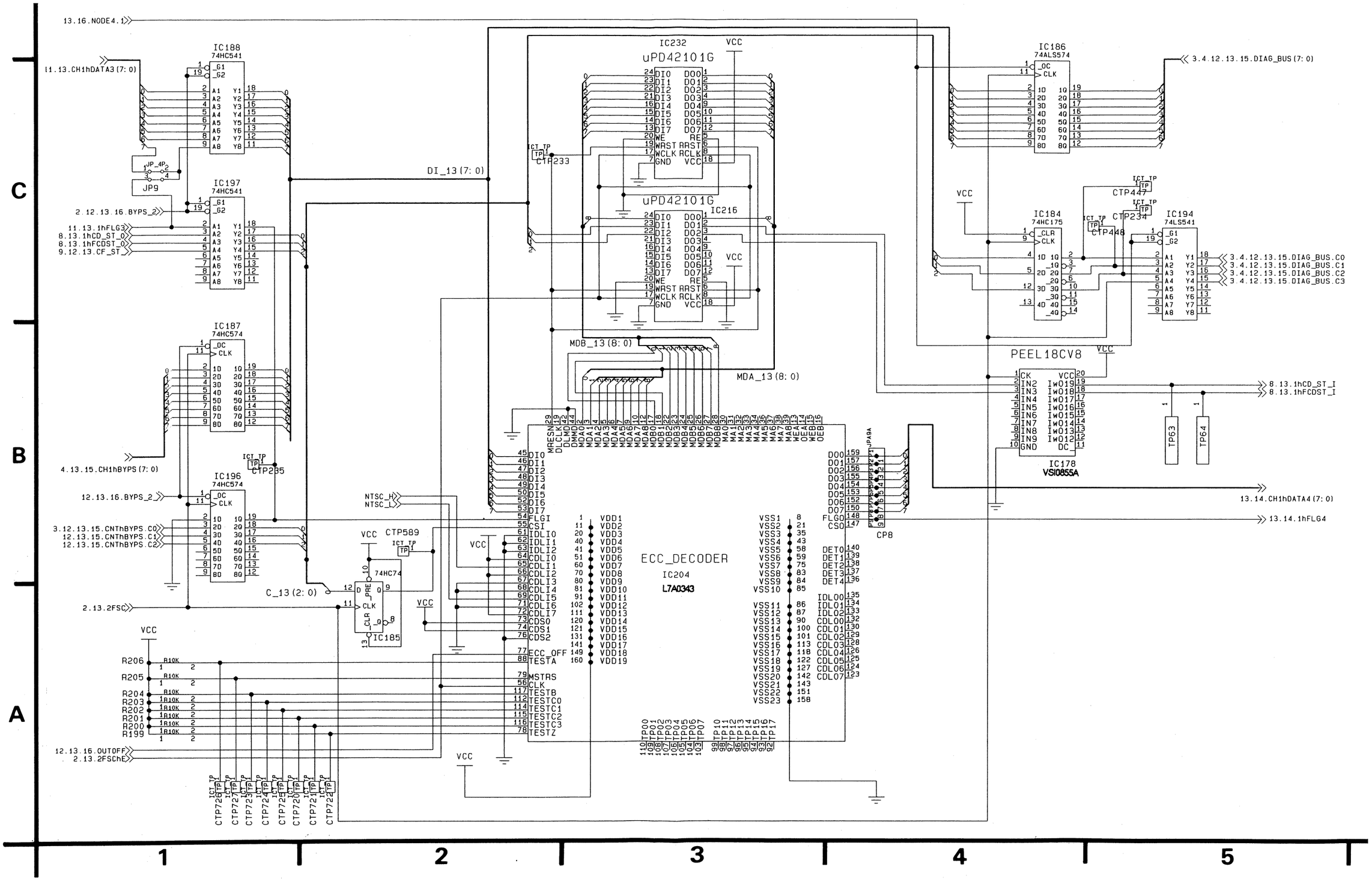



4—2—40

# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (12/25)



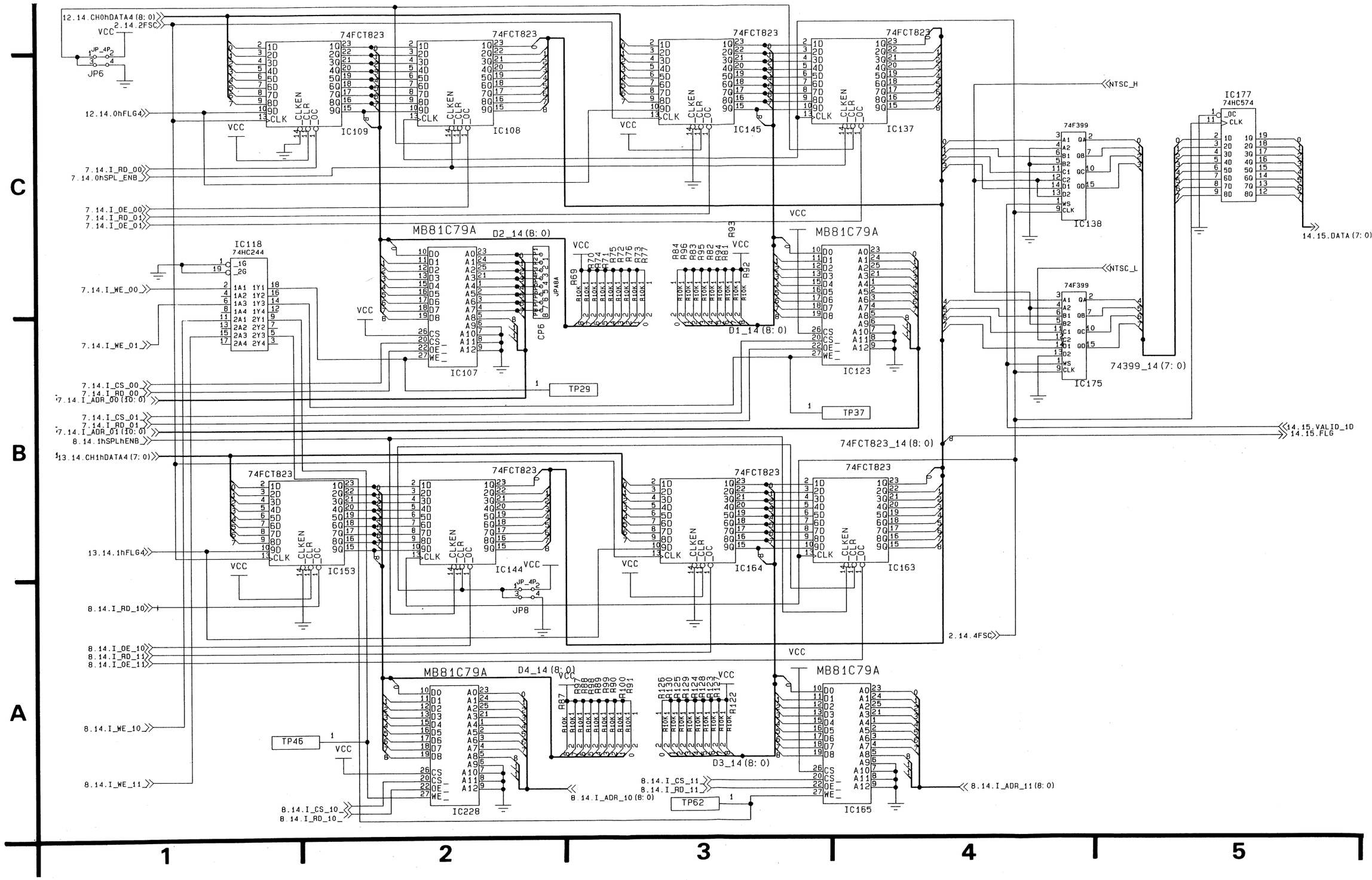
# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (13/25)






4—2—42

# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (14/25)




C

B

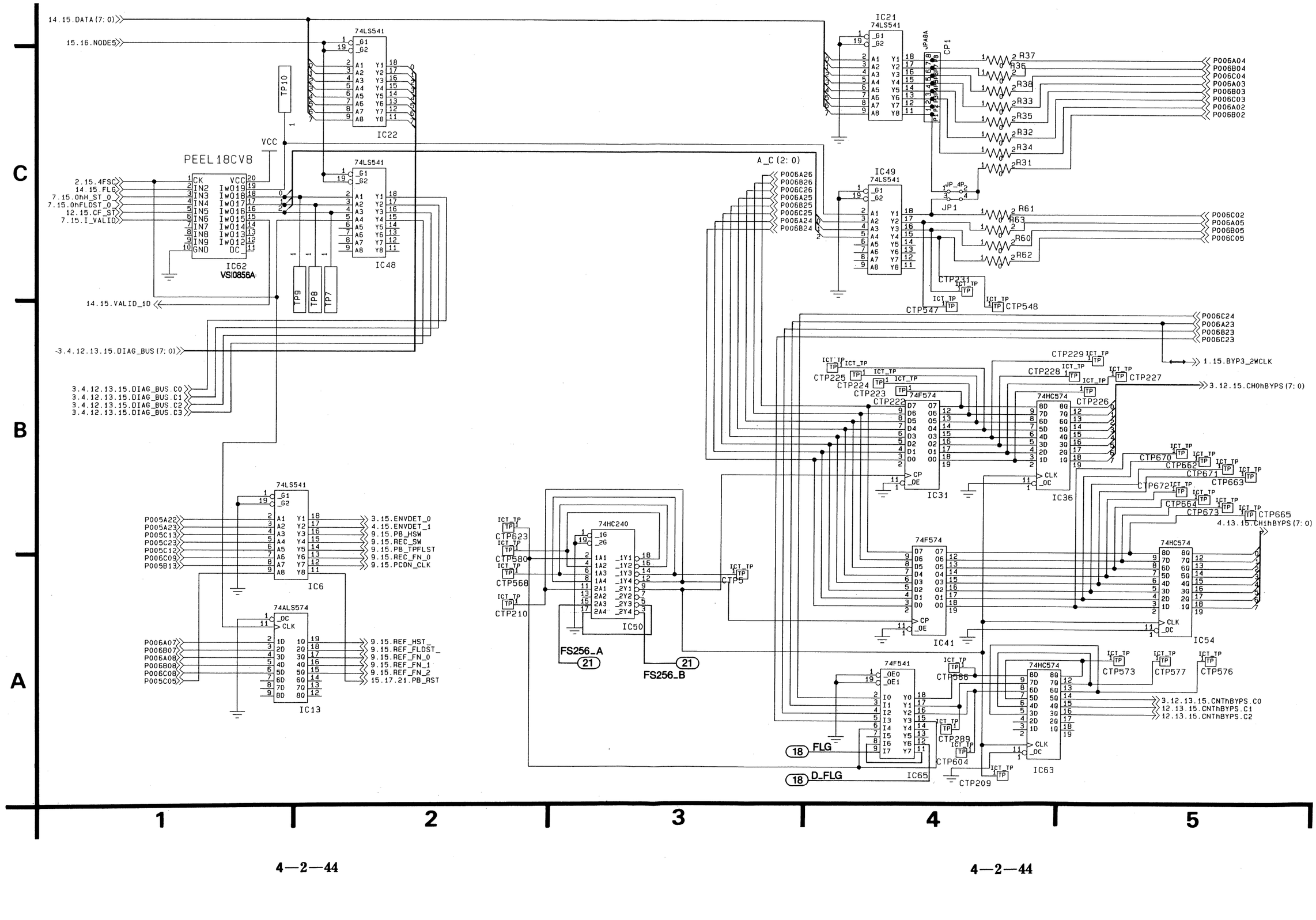
A

1 2 3 4 5



4—2—43

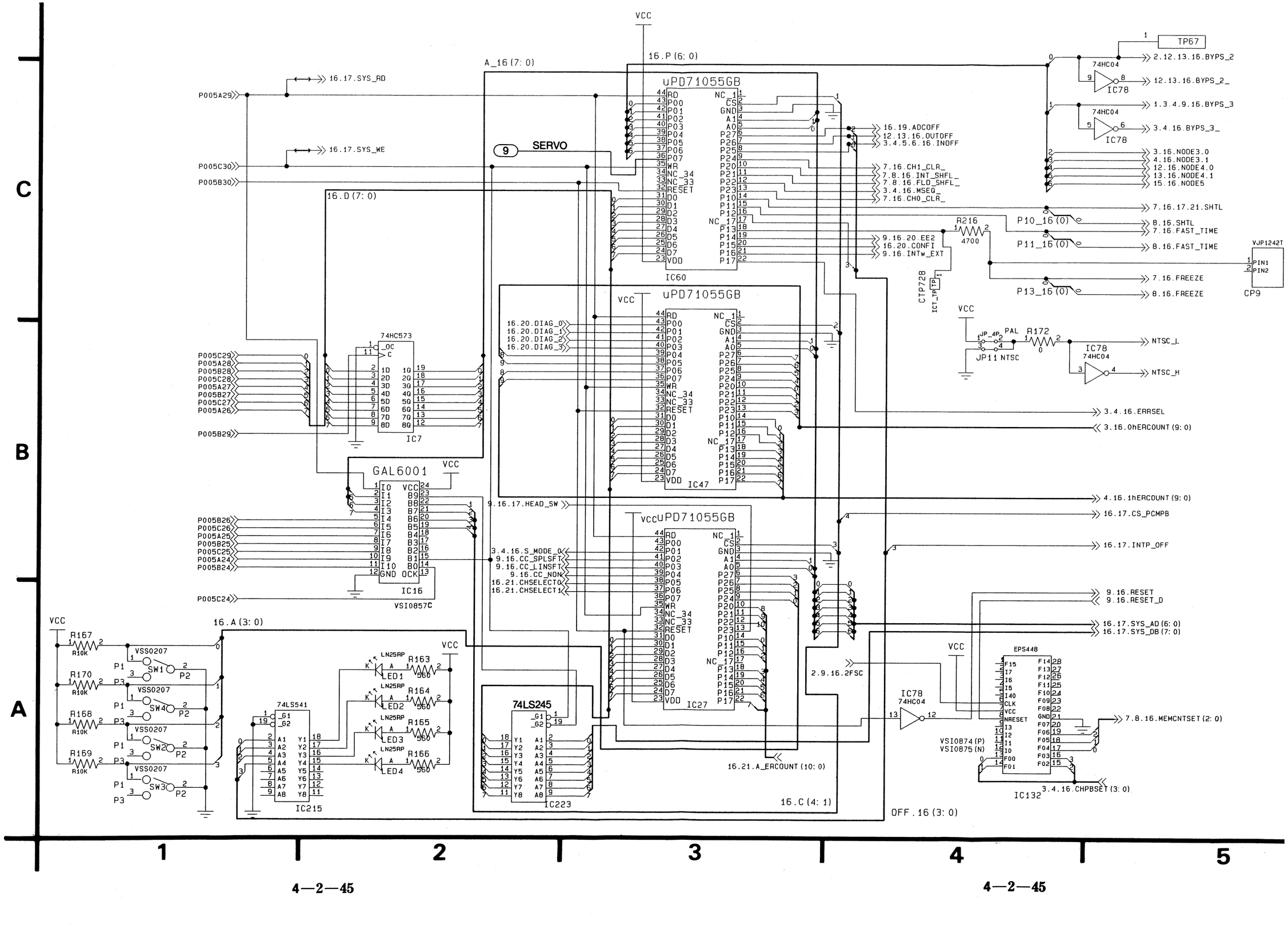
# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (15/25)



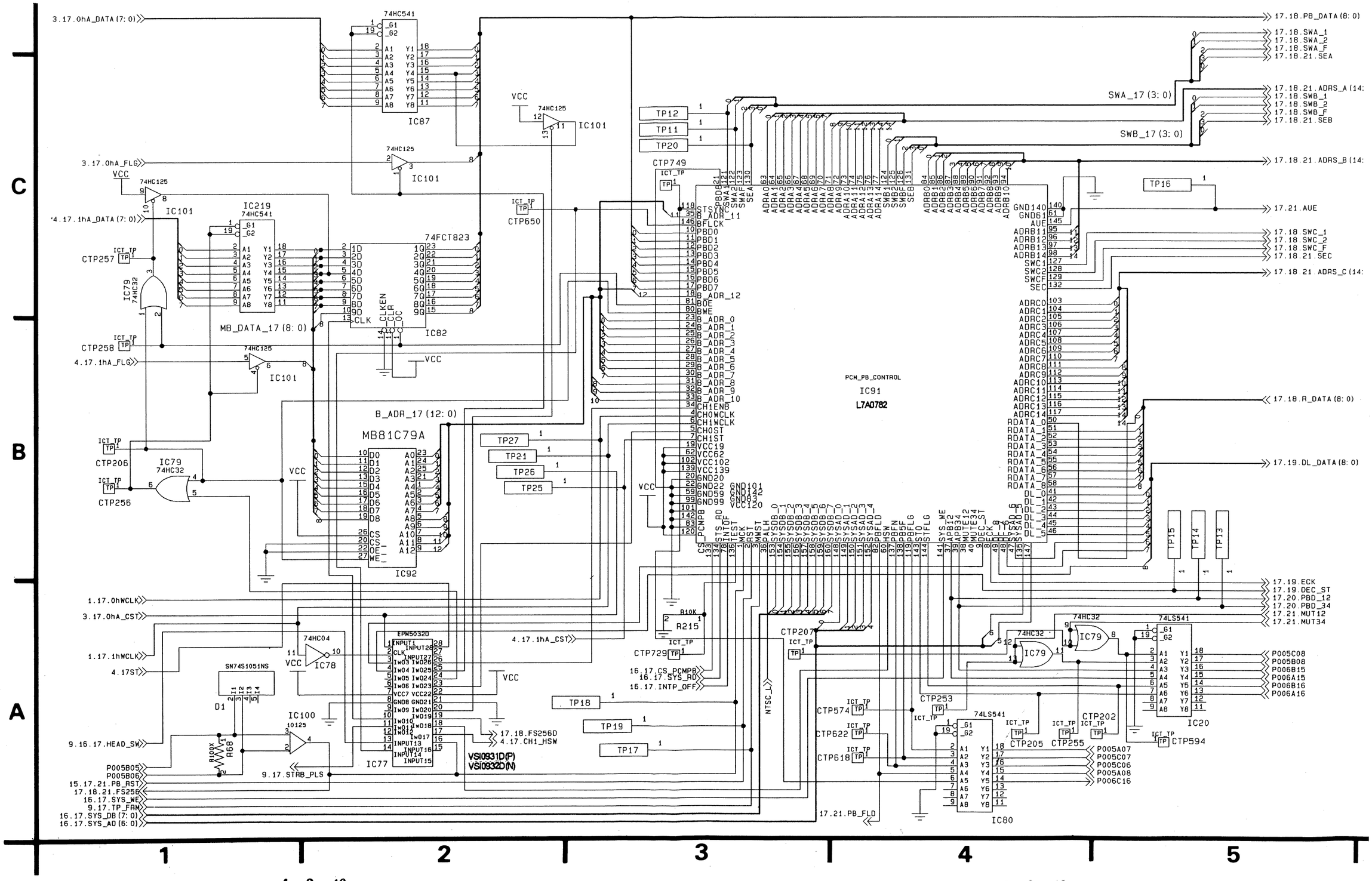



4—2—44

# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (16/25)



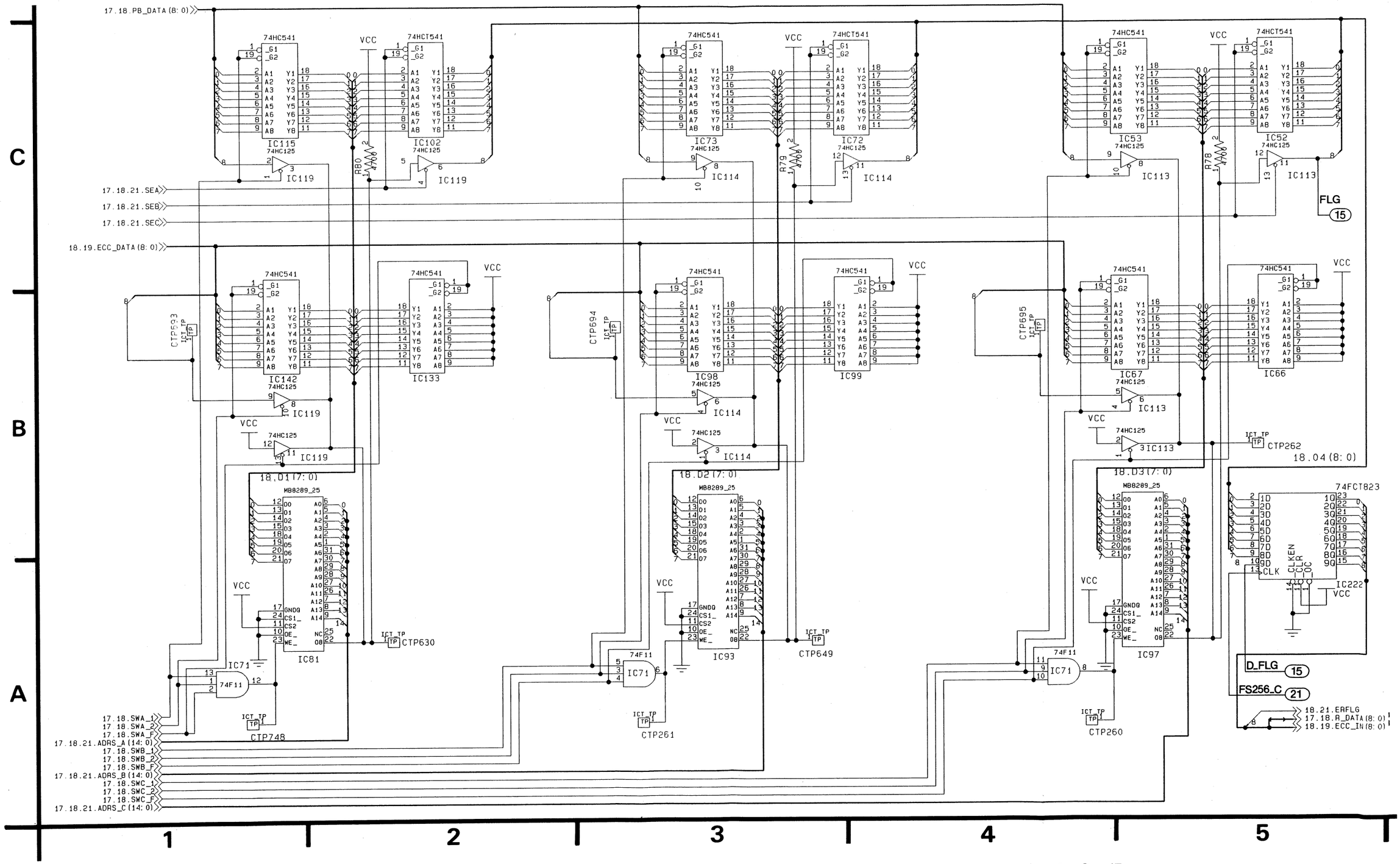
# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (17/25)






4—2—46

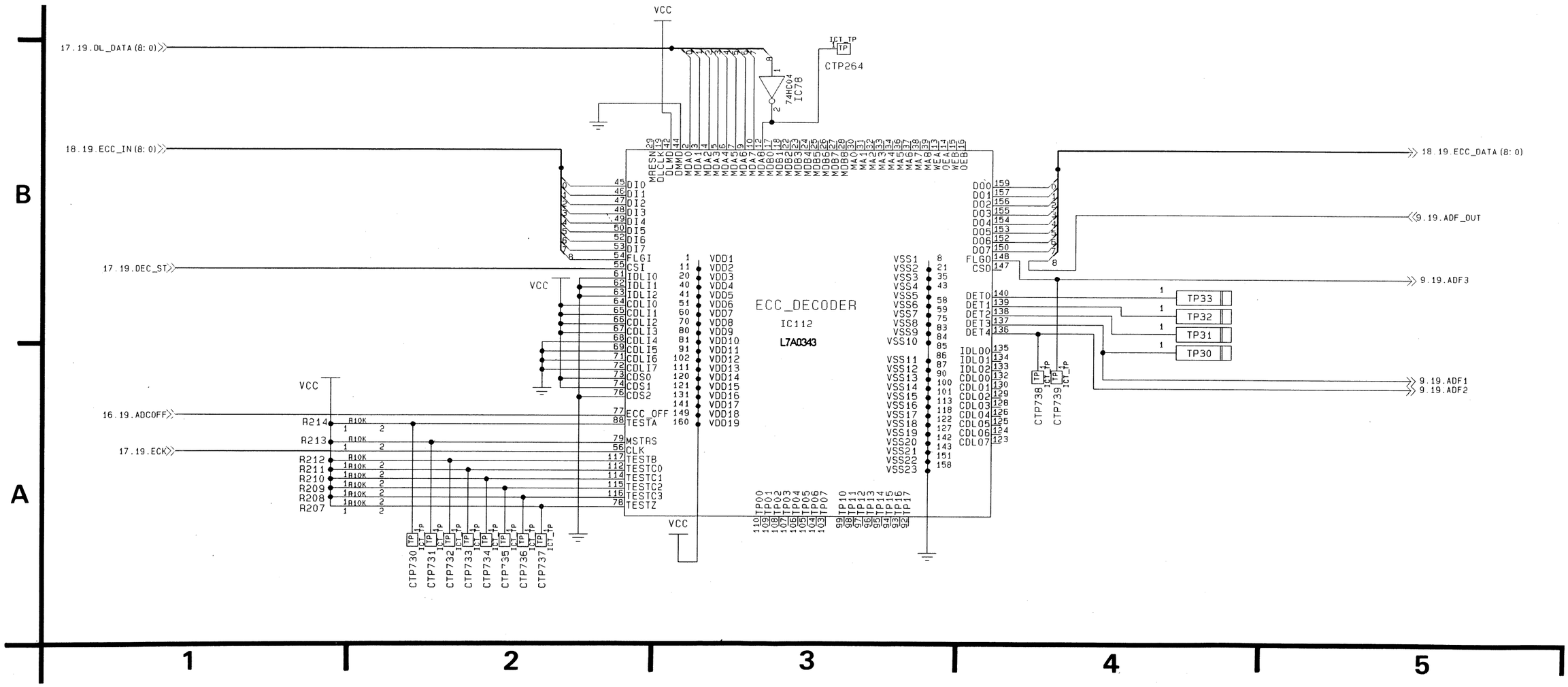
# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (18/25)






4—2—47

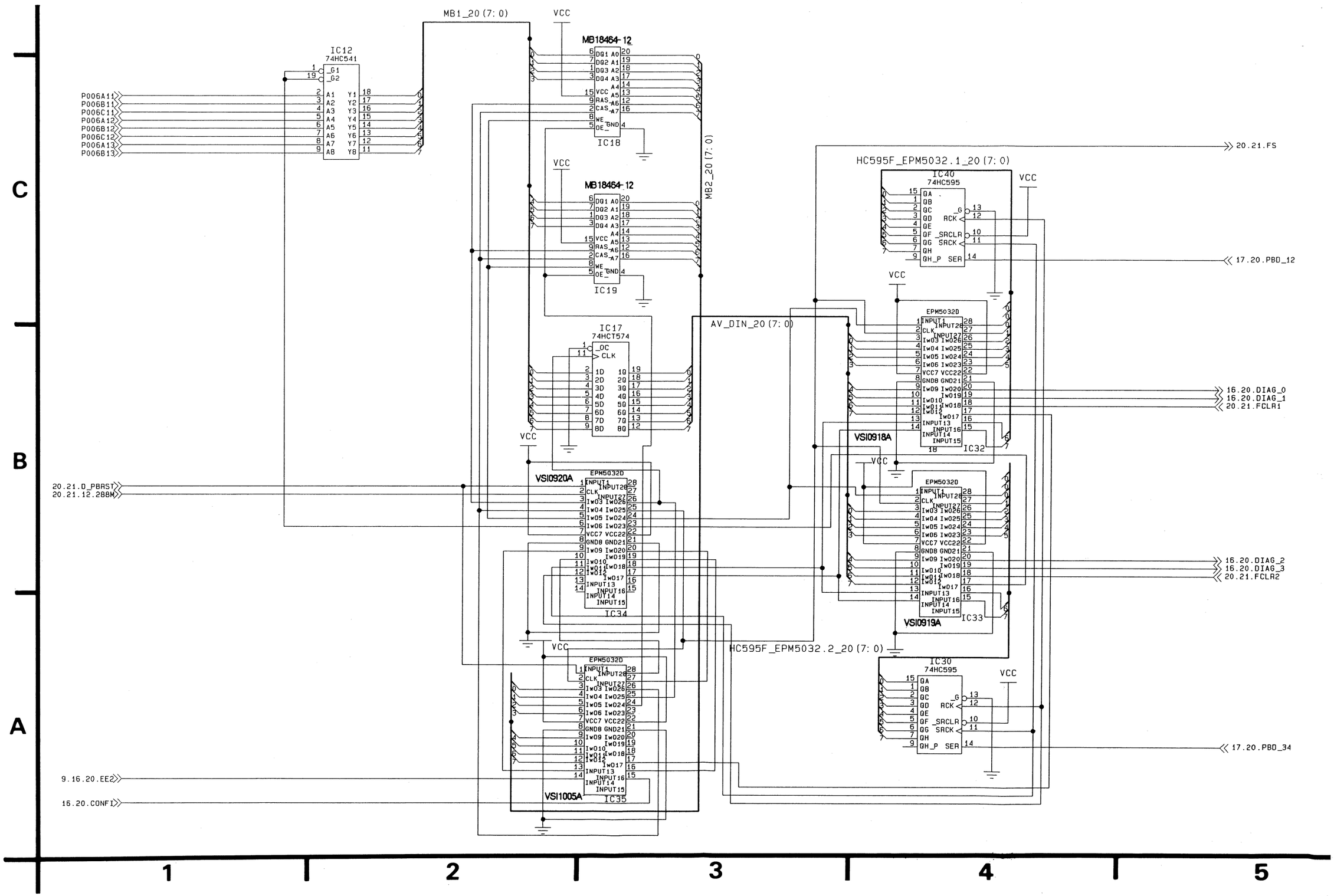
# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (19/25)






4—2—48

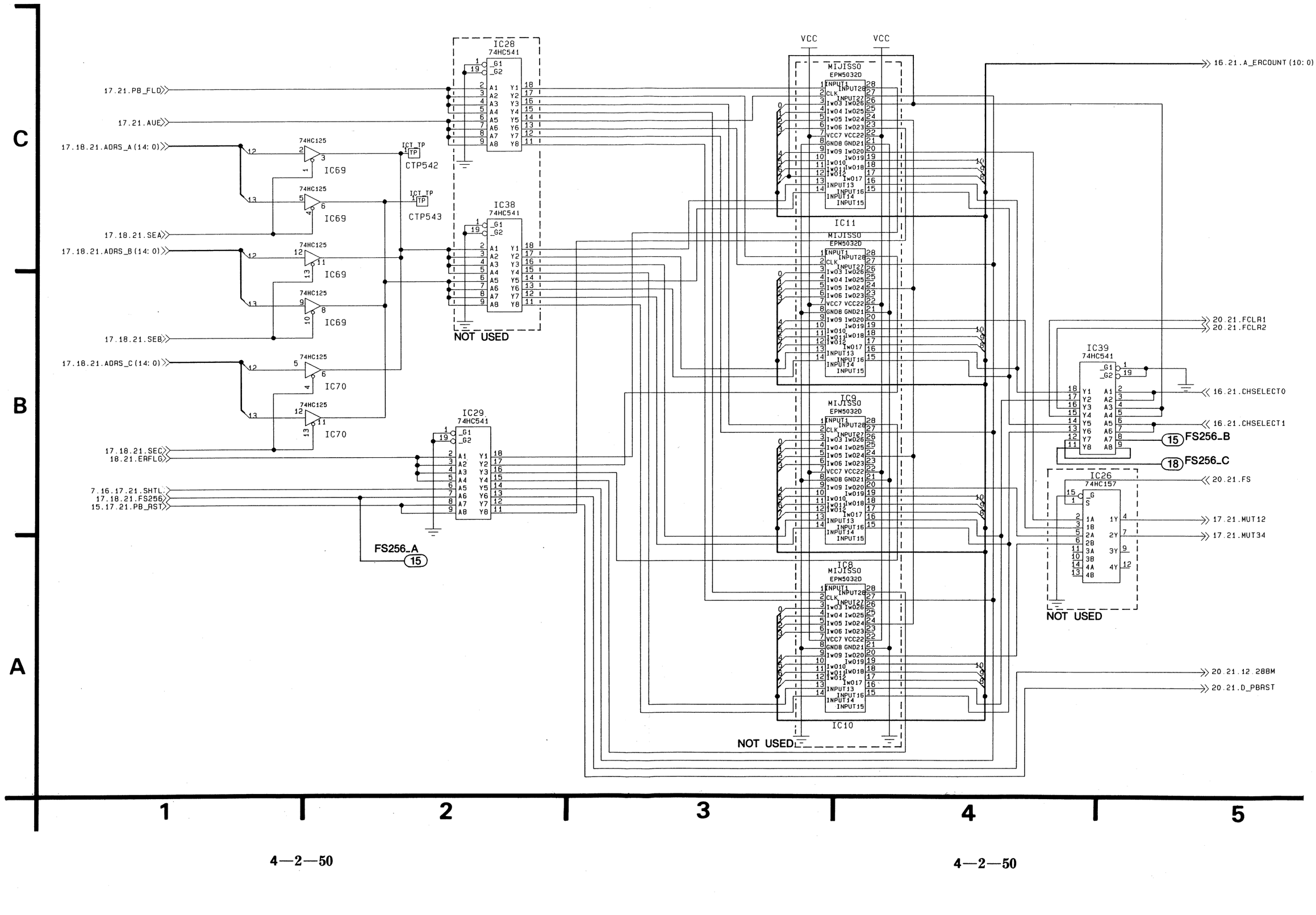
# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (20/25)






4—2—49

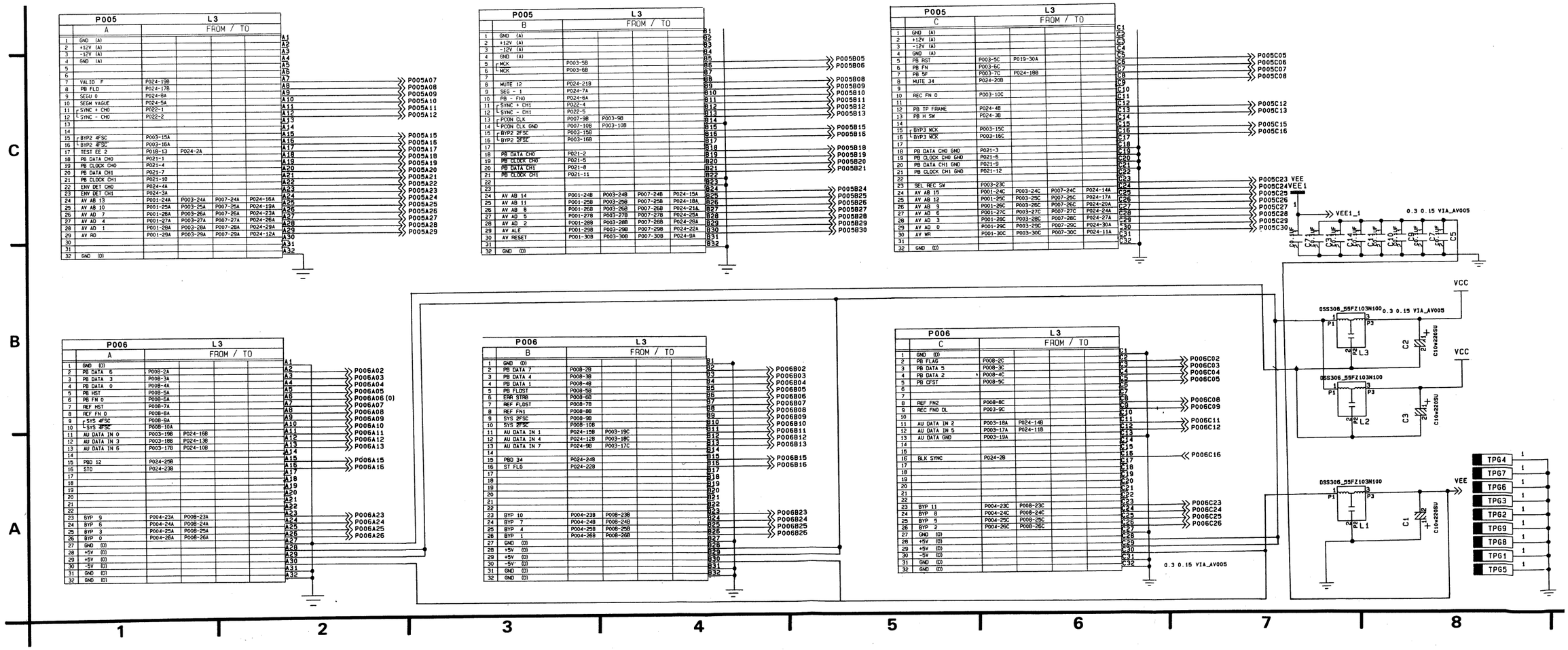
# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (21/25)






4—2—50

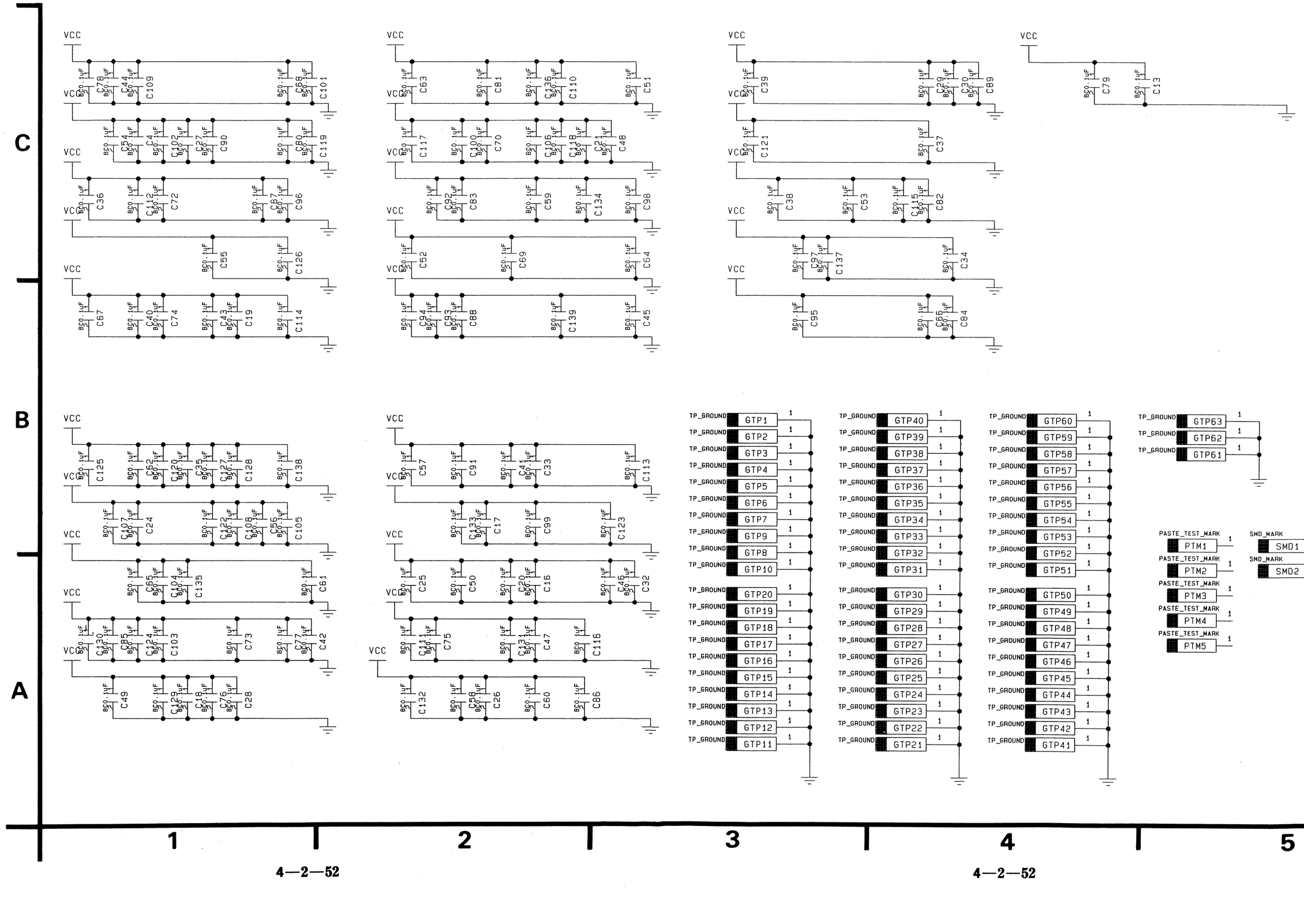
# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (22/25) [L MOTHER (P005, P006) SCHEMATIC DIAGRAM (3/7) FOR L3]





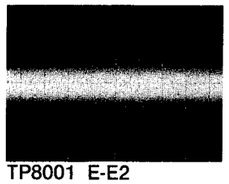

4—2—51

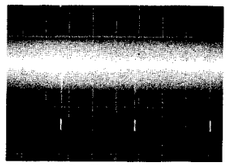
# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (23/25)

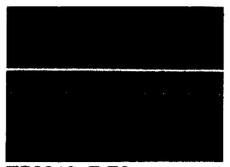


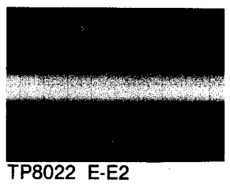
NTSC

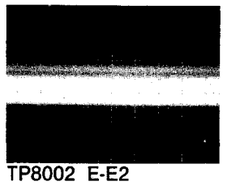
## L3 WAVEFORMS NTSC

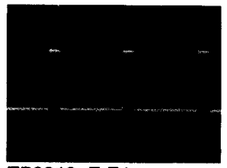

TP8001 E-E2
20mV/20µsec. div.


TP8009 E-E2
2V/20µsec. div.

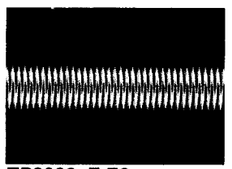

TP8016 E-E2
5V/5µsec. div.

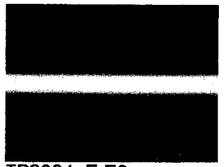

TP8022 E-E2
(TP8023, TP8024, TP8025)
100mV/20µsec. div.

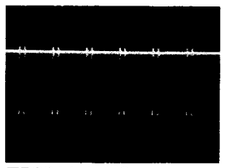

TP8002 E-E2
(TP8003)
500V/20µsec. div.

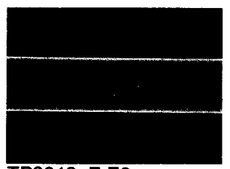

TP8010 E-E4
2V/20µsec. div.

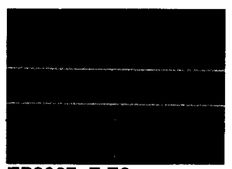
TP8017 E-E2
2V/10msec. div.

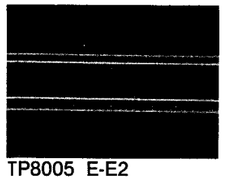

TP8026 E-E2
200mV/500nsec. div.

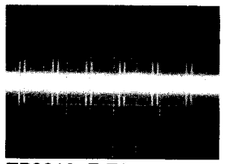

TP8004 E-E2
50mV/20µsec. div.

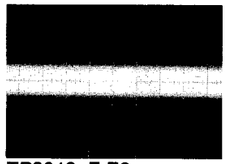

TP8011 E-E2
2V/10µsec. div.

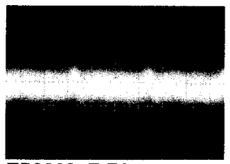

TP8018 E-E2
2V/20µsec. div.

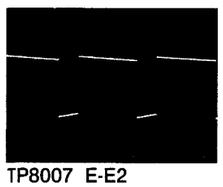

TP8027 E-E2
2V/20µsec. div.

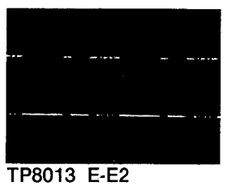

TP8005 E-E2
(TP8006)
2V/20µsec. div.

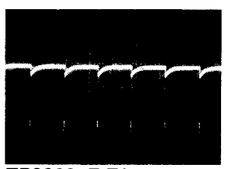

TP8012 E-E2
100mV/10µsec. div.

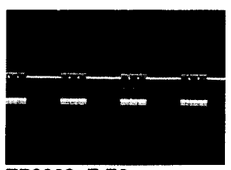

TP8019 E-E2
100mV/20µsec. div.

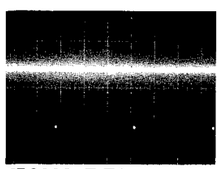

TP8028 E-E2
50mV/20µsec. div.

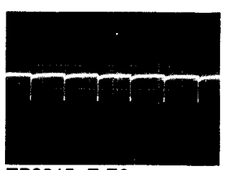

TP8007 E-E2
2V/20msec. div.


TP8013 E-E2
(TP8014)
2V/5µsec. div.

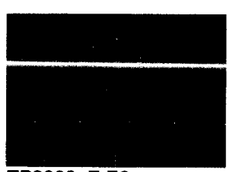

TP8020 E-E2
2V/10µsec. div.


TP8029 E-E2
5V/50µsec. div.


TP8008 E-E2
2V/5msec. div.

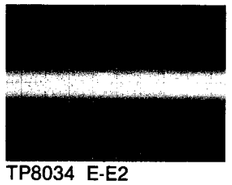

TP8015 E-E2
5V/10µsec. div.

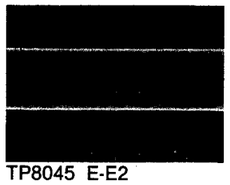
TP8021 E-E2
2V/20µsec. div.

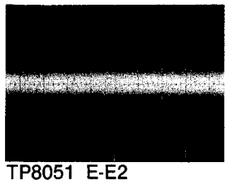

TP8030 E-E2
(TP8031, TP8032, TP8033)
2V/10msec. div.

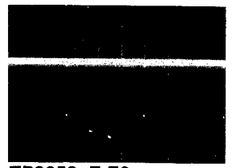


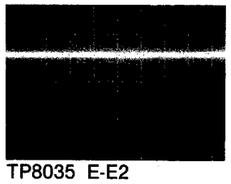
## L3 WAVEFORMS NTSC

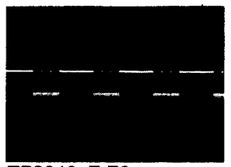

TP8034 E-E2
50mV/20µsec. div.

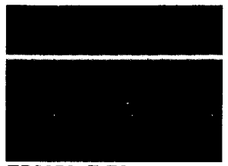

TP8045 E-E2
2V/5µsec. div.


TP8051 E-E2
(TP8052)
50mV/500µsec. div.


TP8058 E-E2
2V/5msec. div.


TP8035 E-E2
2V/20µsec. div.

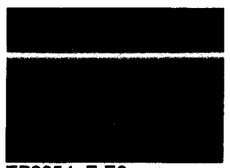

TP8046 E-E2
5V/50µsec. div.


TP8053 E-E2
2V/5msec. div.

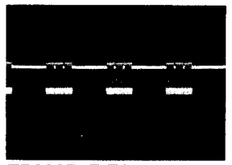
TP8059 E-E2
5V/20µsec. div.

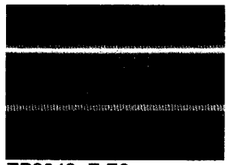
TP8036 E-E2
50mV/20µsec. div.

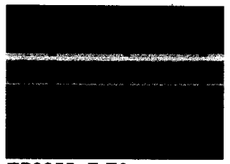
TP8047 E-E2
50mV/20µsec. div.

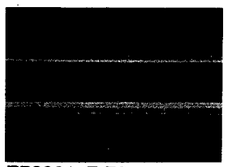

TP8054 E-E2
2V/50µsec. div.

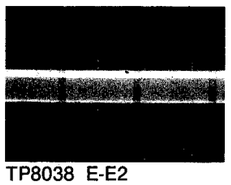
TP8060 E-E2
5V/20msec. div.

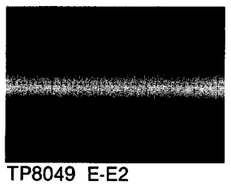

TP8037 E-E2
5V/50µsec. div.

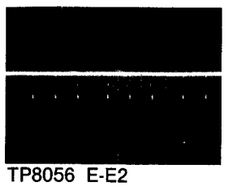

TP8048 E-E2
2V/1µsec. div.

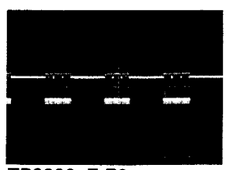

TP8055 E-E2
5V/20µsec. div.

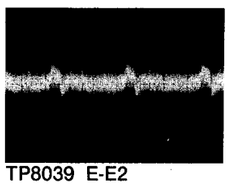

TP8061 E-E2
2V/2µsec. div.

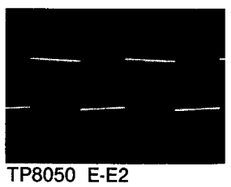

TP8038 E-E2
(TP8041, TP8043, TP8044)
5V/20µsec. div.

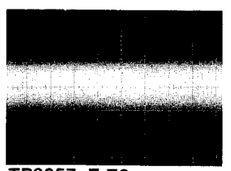

TP8049 E-E2
50mV/20µsec. div.

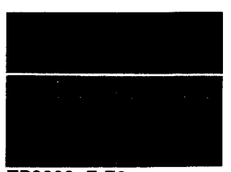

TP8056 E-E2
5V/20µsec. div.


TP8062 E-E2
5V/50µsec. div.

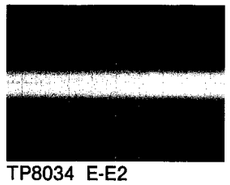

TP8039 E-E2
(TP8040, TP8042)
50mV/20µsec. div.


TP8050 E-E2
2V/10msec. div.

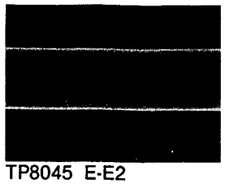

TP8057 E-E2
20mV/20µsec. div.


TP8063 E-E2
5V/20µsec. div.

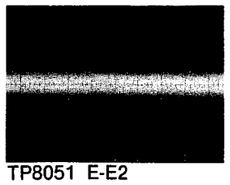
## L3 WAVEFORMS NTSC



TP8034 E-E2
50mV/20µsec. div.

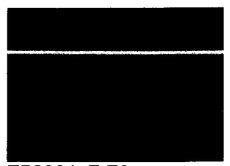


TP8045 E-E2
2V/5µsec. div.

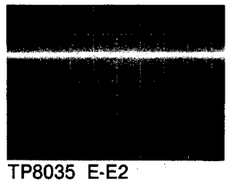


TP8051 E-E2
(TP8052)
50mV/500µsec. div.

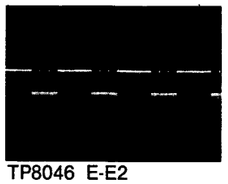
TP8058 E-E2
2V/5msec. div.



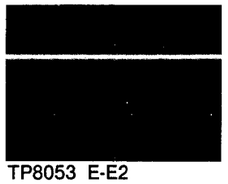
TP8064 E-E2
2V/5msec. div.



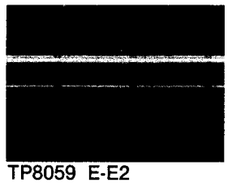
TP8035 E-E2
2V/20µsec. div.



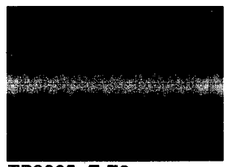
TP8046 E-E2
5V/50µsec. div.



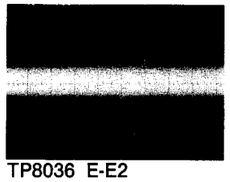
TP8053 E-E2
2V/5msec. div.



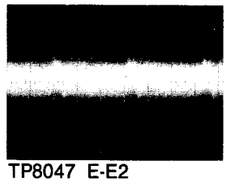
TP8059 E-E2
5V/20µsec. div.



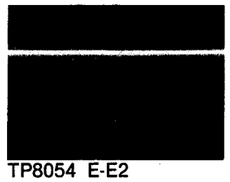
TP8065 E-E2
50mV/20µsec. div.



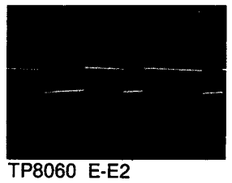
TP8036 E-E2
50mV/20µsec. div.



TP8047 E-E2
50mV/20µsec. div.



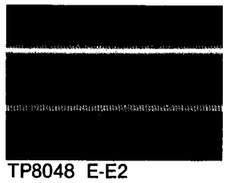
TP8054 E-E2
2V/50µsec. div.



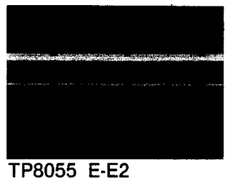
TP8060 E-E2
5V/20msec. div.

TP8066 E-E2
5V/20µsec. div.

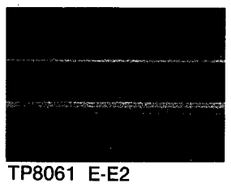
TP8037 E-E2
5V/50µsec. div.



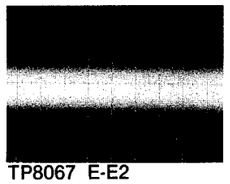
TP8048 E-E2
2V/1µsec. div.



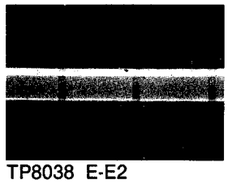
TP8055 E-E2
5V/20µsec. div.



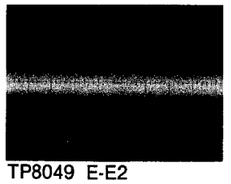
TP8061 E-E2
2V/2µsec. div.



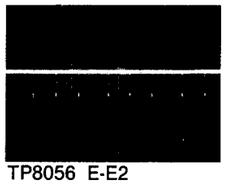
TP8067 E-E2
20mV/20µsec. div.



TP8038 E-E2
(TP8041, TP8043, TP8044)
5V/20µsec. div.



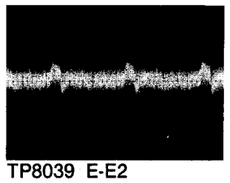
TP8049 E-E2
50mV/20µsec. div.



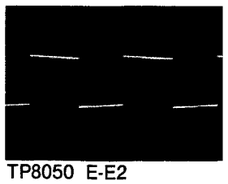
TP8056 E-E2
5V/20µsec. div.

TP8062 E-E2
5V/50µsec. div.

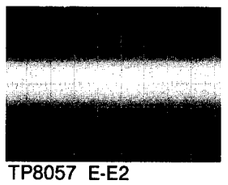
TP8068 E-E2
2V/20msec. div.



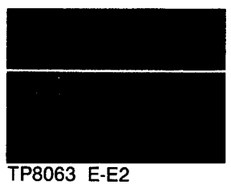
TP8039 E-E2
(TP8040, TP8042)
50mV/20µsec. div.



TP8050 E-E2
2V/10msec. div.



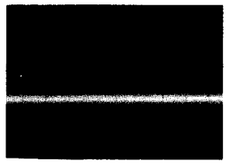
TP8057 E-E2
20mV/20µsec. div.

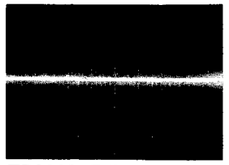


TP8063 E-E2
5V/20µsec. div.

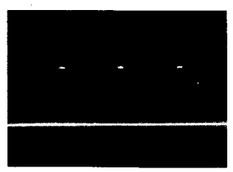
PAL

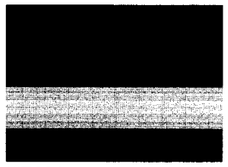
## L3 WAVEFORMS PAL

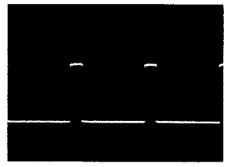

TP8001 E-E2
20mV/20μsec. div.

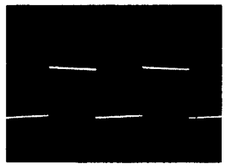

TP8009 E-E2
2V/20μsec. div.

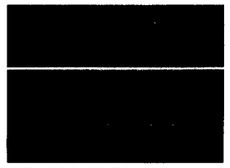
TP8016 E-E2
2V/20μsec. div.

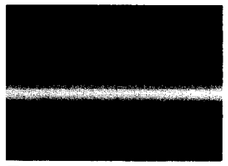

TP8022 E-E2
2V/2msec. div.

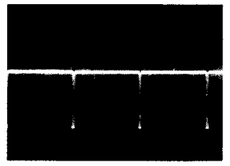

TP8002 E-E2
(TP8003)
500mV/20μsec. div.

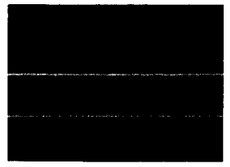

TP8010 E-E2
2V/20μsec. div.

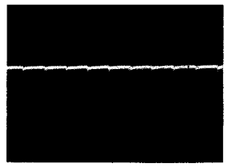

TP8017 E-E2
2V/10msec. div.

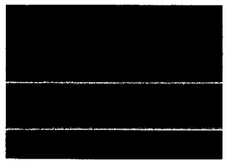

TP8023 E-E2
(TP8024)
2V/10μsec. div.

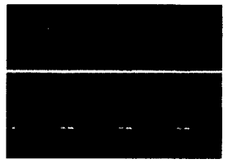

TP8004 E-E2
20mV/20μsec. div.

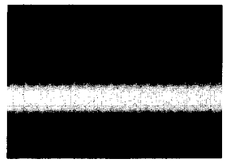

TP8011 E-E2
2V/5μsec. div.

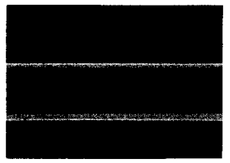

TP8018 E-E2
2V/10μsec. div.


TP8025 E-E2
(TP8026)
2V/10μsec. div.

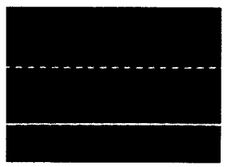

TP8005 E-E2
(TP8006)
2V/20μsec. div.

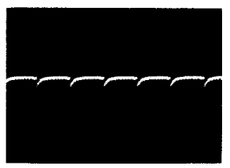

TP8012 E-E2
2V/2msec. div.

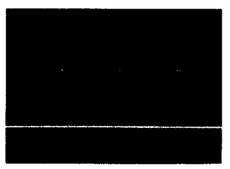

TP8019 E-E2
100mV/20μsec. div.


TP8027 E-E2
2V/10μsec. div.

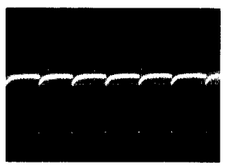
TP8007 E-E2
2V/20msec. div.

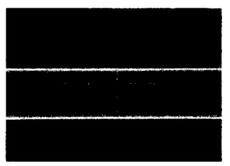

TP8013 E-E2
(TP8014)
2V/20μsec. div.

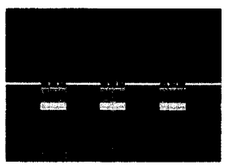

TP8020 E-E2
2V/10μsec. div.


TP8028 E-E2
2V/2msec. div.

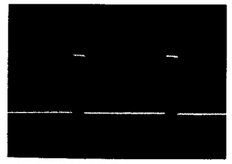
TP8008 E-E2
2V/10msec. div.

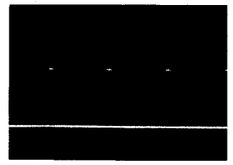

TP8015 E-E2
2V/10μsec. div.

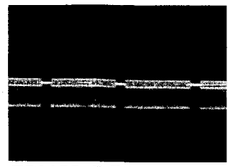

TP8021 E-E2
2V/20μsec. div.

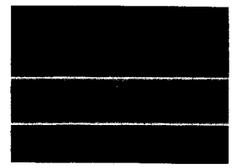

TP8029 E-E2
5V/50μsec. div.

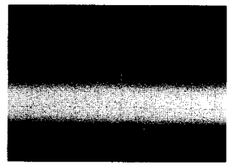
## L3 WAVEFORMS PAL

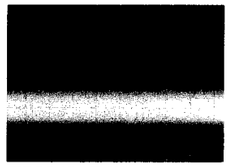

TP8030 E-E2
(TP8031, TP8032, TP8033)
2V/5msec. div.


TP8047 E-E2
2V/2msec. div.

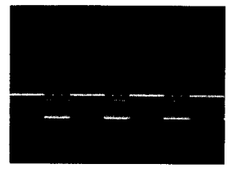

TP8055 E-E2
5V/20μsec. div.

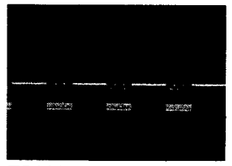

TP8061 E-E2
2V/200μsec. div.

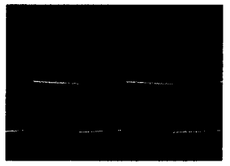

TP8034 E-E2
(TP8035, TP8036)
50mV/20μsec. div.

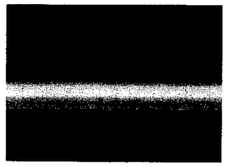

TP8048 E-E2
(TP8049)
50mV/20μsec. div.

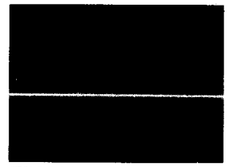
TP8056 E-E2
5V/20μsec. div.

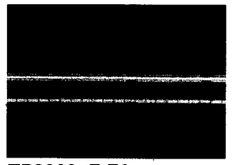

TP8062 E-E2
5V/50μsec. div.

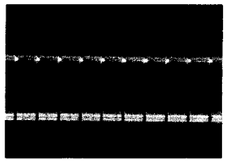

TP8037 E-E2
5V/50μsec. div.

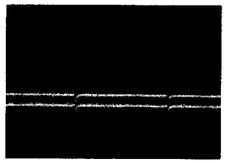

TP8050 E-E2
2V/10msec. div.


TP8057 E-E2
20mV/20μsec. div.

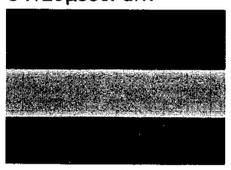

TP8063 E-E2
5V/20μsec. div.

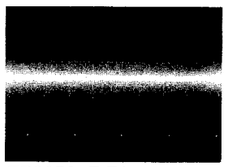

TP8038 E-E2
(TP8039, TP8040, TP8041,
TP8042, TP8043, TP8044)
5V/20μsec. div.

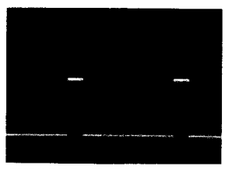

TP8051 E-E2
(TP8052)
2V/10μsec. div.

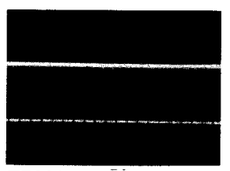

TP8058 E-E2
500mV/5msec. div.

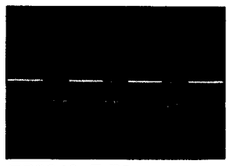
TP8064 E-E2
2V/10msec. div.

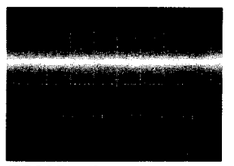

TP8045 E-E2
2V/20μsec. div.


TP8053 E-E2
2V/10msec. div.

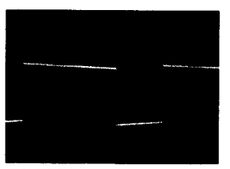

TP8059 E-E2
2V/2μsec. div.


TP8065 E-E2
2V/20μsec. div.

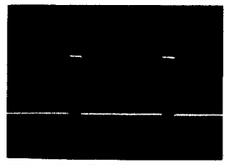

TP8046 E-E2
5V/50μsec. div.


TP8054 E-E2
2V/50μsec. div.

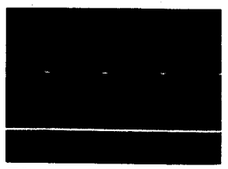
TP8060 E-E2
2V/10msec. div.


TP8066 E-E2
2V/10msec. div.

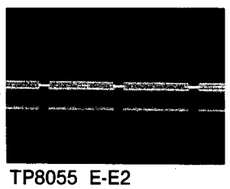
## L3 WAVEFORMS PAL



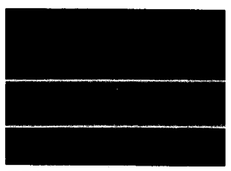
TP8030 E-E2
(TP8031, TP8032, TP8033)
2V/5msec. div.



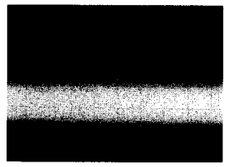
TP8047 E-E2
2V/2msec. div.



TP8055 E-E2
5V/20µsec. div.



TP8061 E-E2
2V/200µsec. div.



TP8034 E-E2
(TP8035, TP8036)
50mV/20µsec. div.

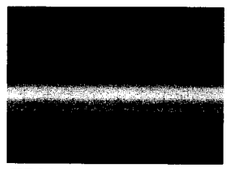
TP8048 E-E2
(TP8049)
50mV/20µsec. div.

TP8056 E-E2
5V/20µsec. div.

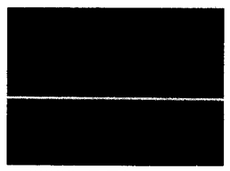
TP8062 E-E2
5V/50µsec. div.

TP8037 E-E2
5V/50µsec. div.

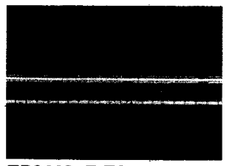
TP8050 E-E2
2V/10msec. div.



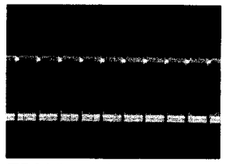
TP8057 E-E2
20mV/20µsec. div.



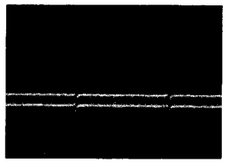
TP8063 E-E2
5V/20µsec. div.



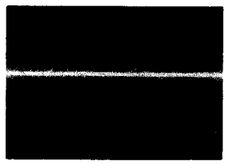
TP8038 E-E2
(TP8039, TP8040, TP8041,
TP8042, TP8043, TP8044)
5V/20µsec. div.



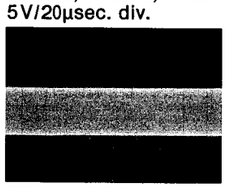
TP8051 E-E2
(TP8052)
2V/10µsec. div.



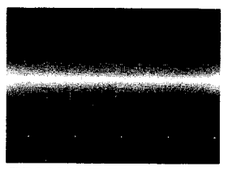
TP8058 E-E2
500mV/5msec. div.



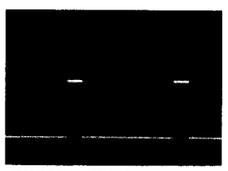
TP8064 E-E2
2V/10msec. div.



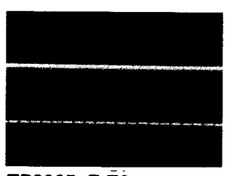
TP8045 E-E2
2V/20µsec. div.



TP8053 E-E2
2V/10msec. div.

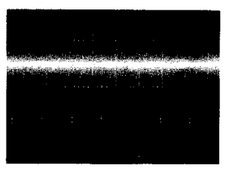


TP8059 E-E2
2V/2µsec. div.



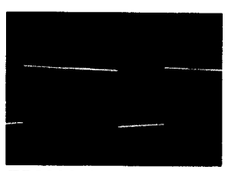
TP8065 E-E2
2V/20µsec. div.

TP8046 E-E2
5V/50µsec. div.



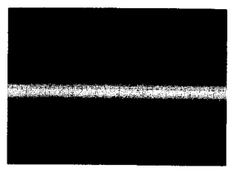
TP8054 E-E2
2V/50µsec. div.

TP8060 E-E2
2V/10msec. div.



TP8066 E-E2
2V/10msec. div.

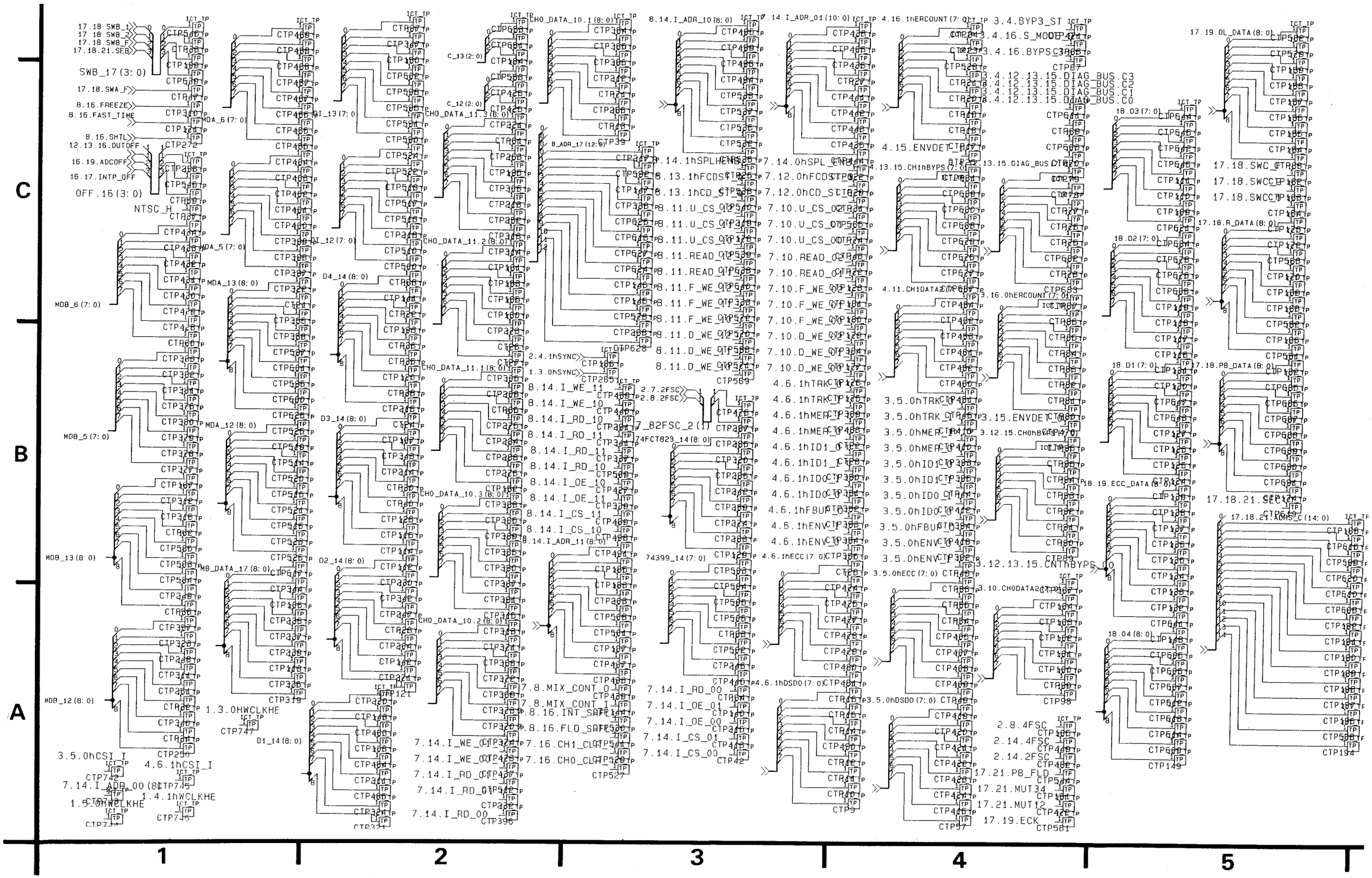
## L3 WAVEFORMS PAL



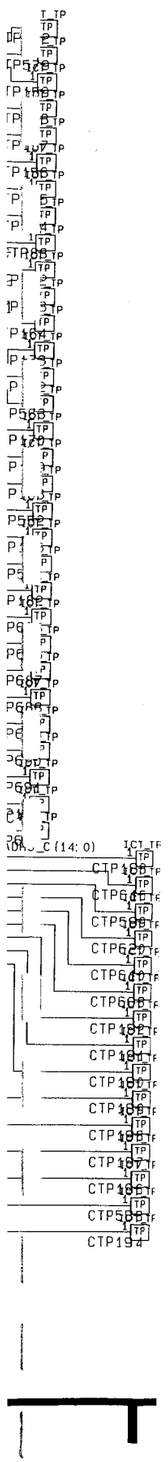
TP8067 E-E2
20mV/20µsec. div.

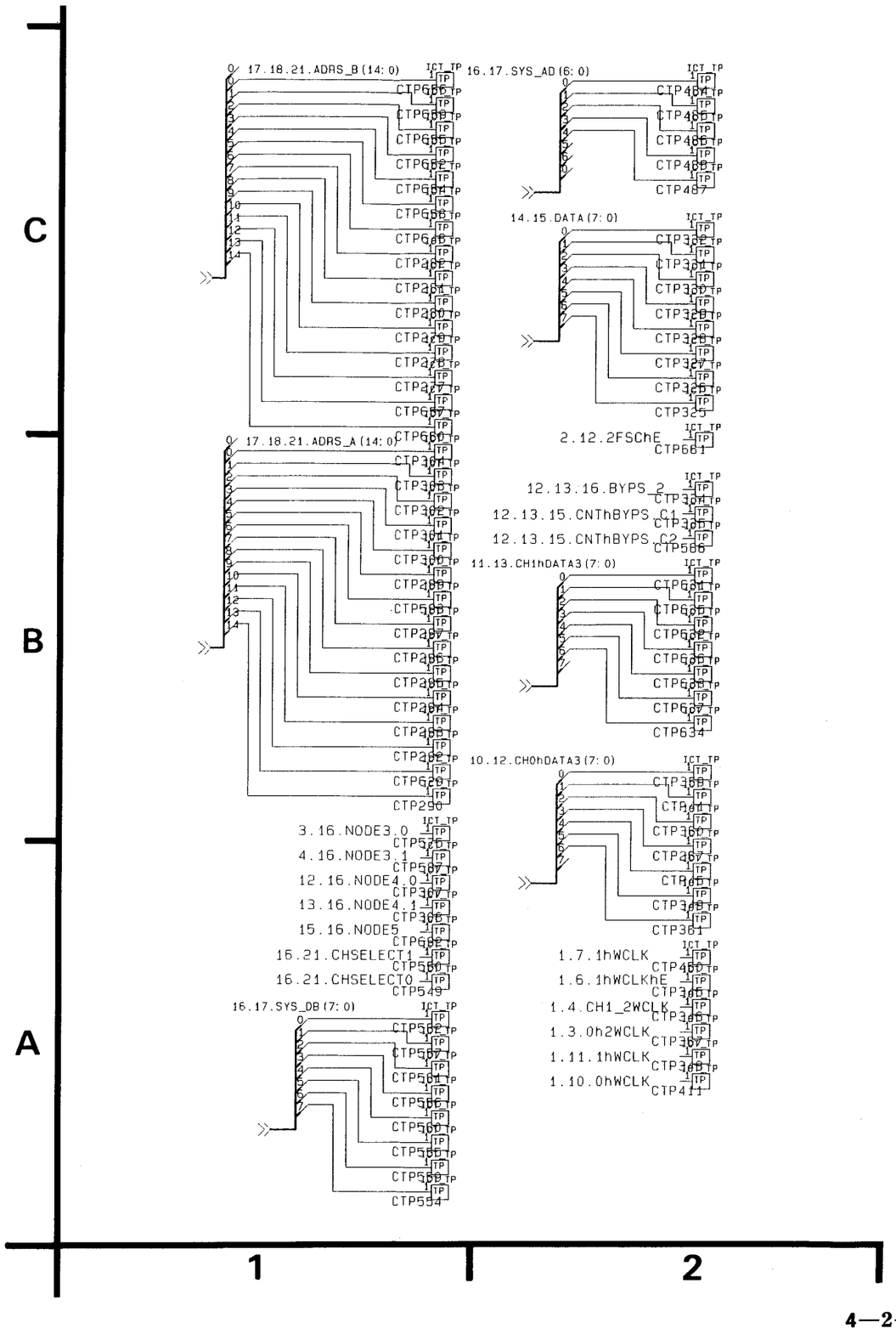
TP8068 E-E2
2V/20msec. div.

# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (24/25)

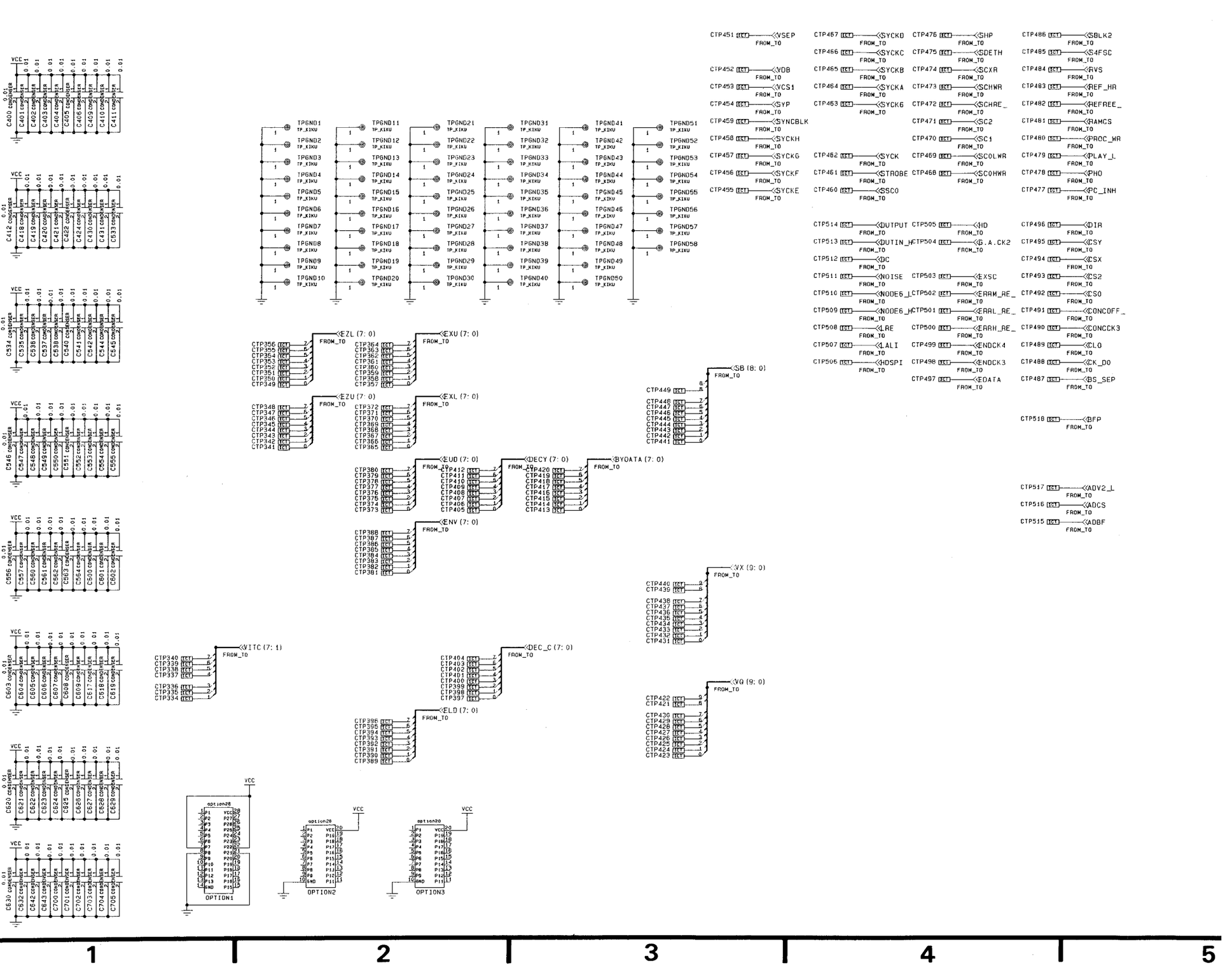


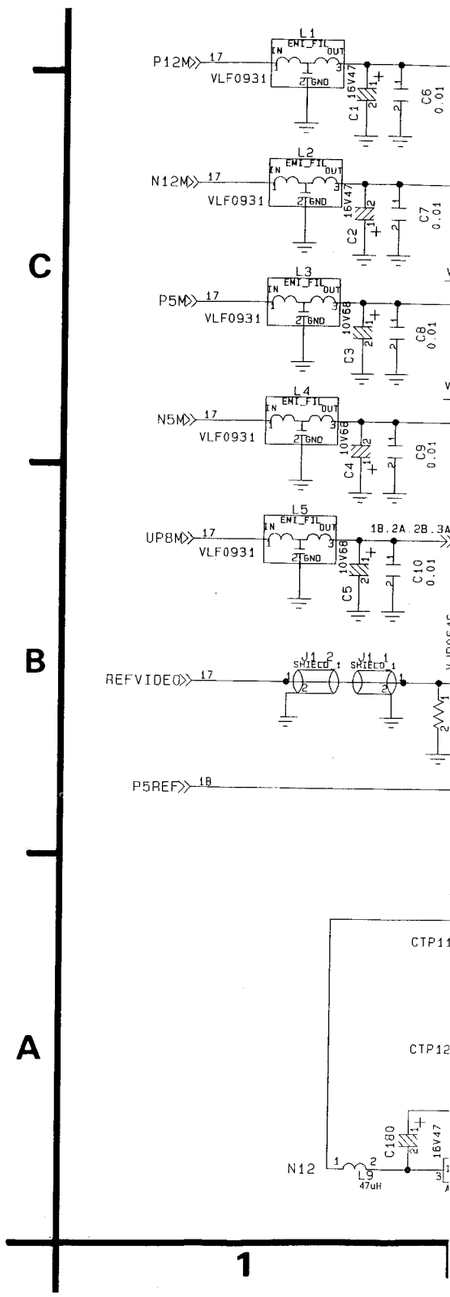
# L3 VIDEO/AUDIO PB SCHEMATIC DIAGRAM (25/25)



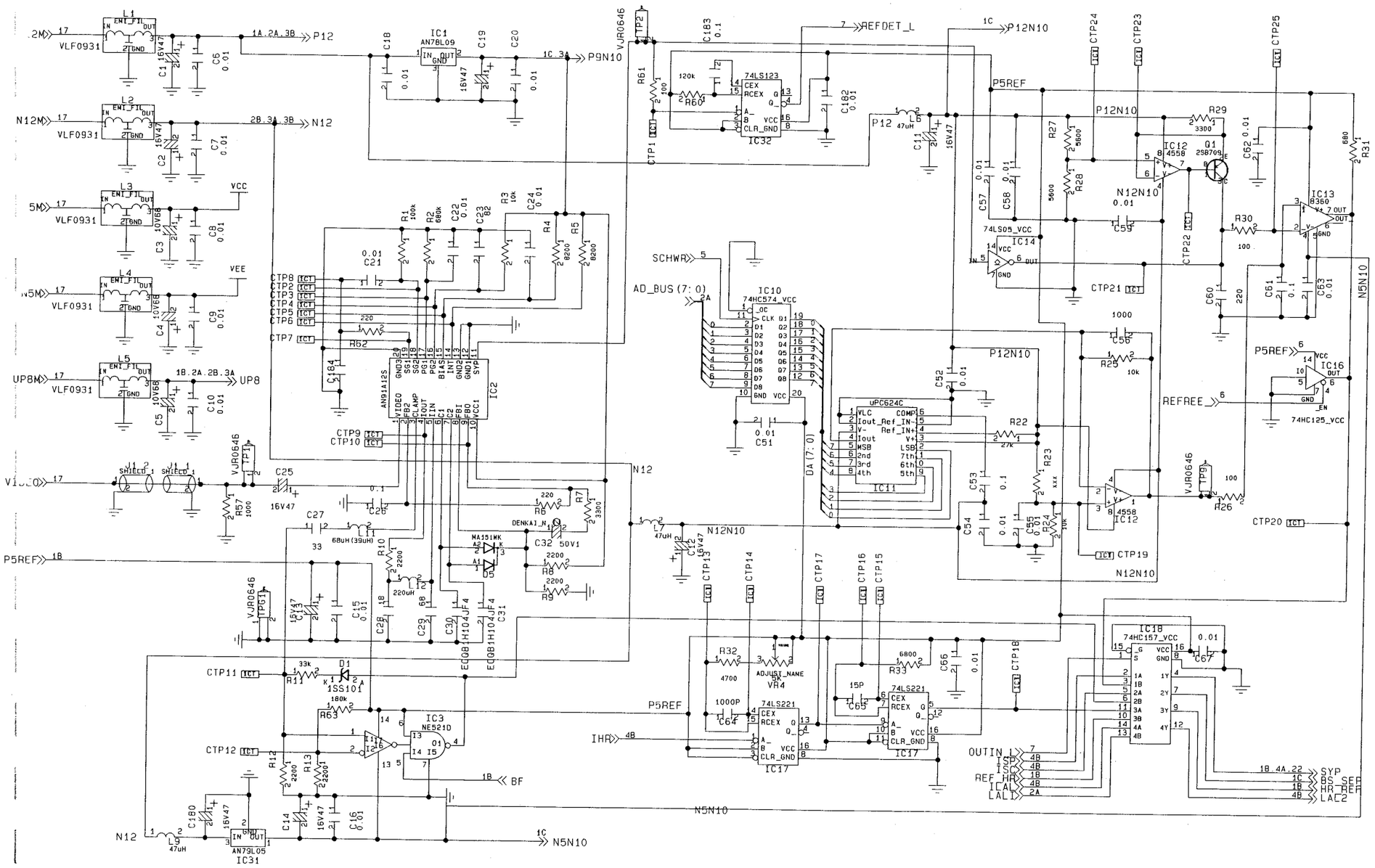



# L4 VIDEO PROCESS (SYNC GEN 1) SCHEMATIC DIAGRAM (1/22)



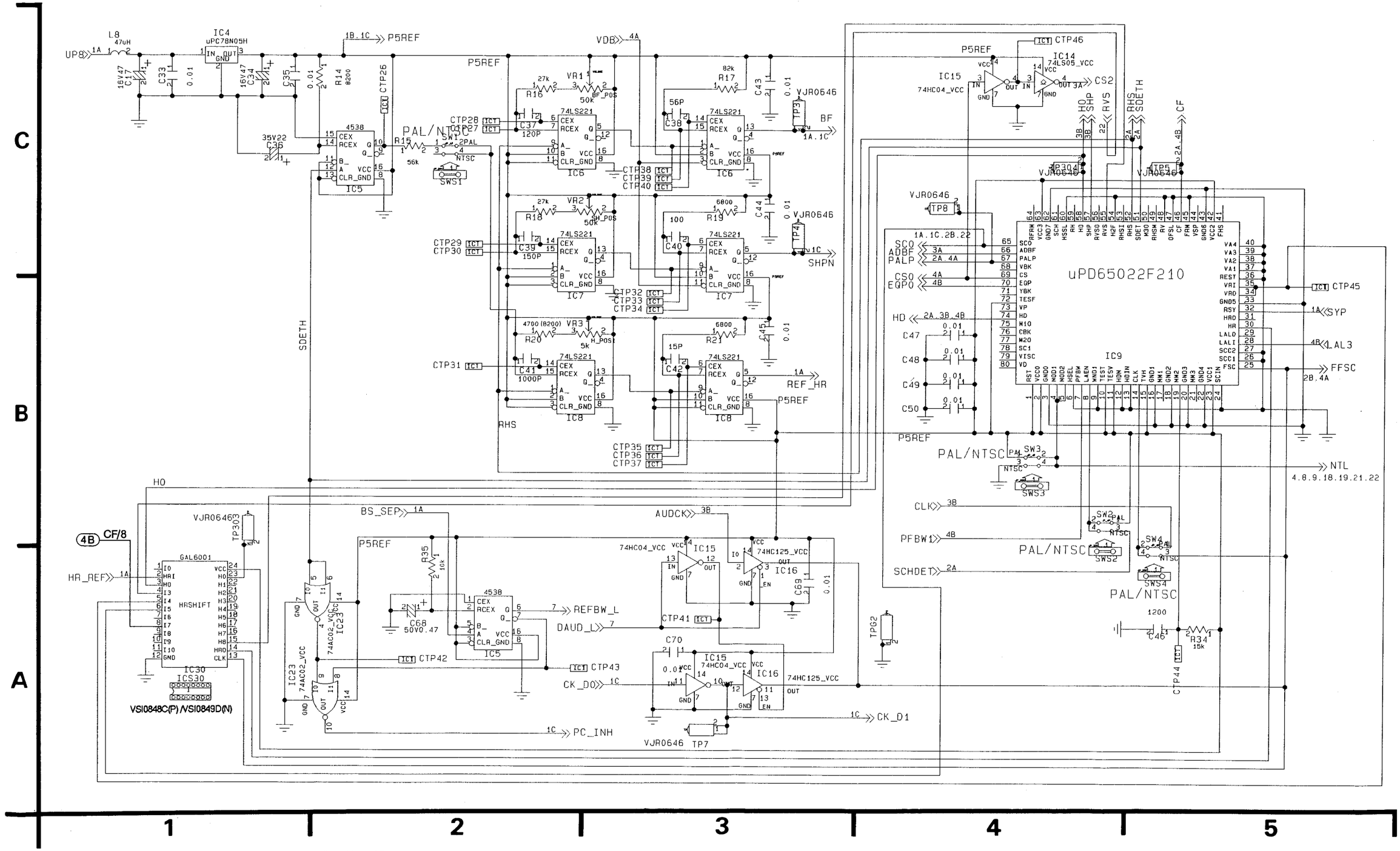
# :O PROCESS (SYNC GEN 1) SCHEMATIC DIAGRAM (1A/22)



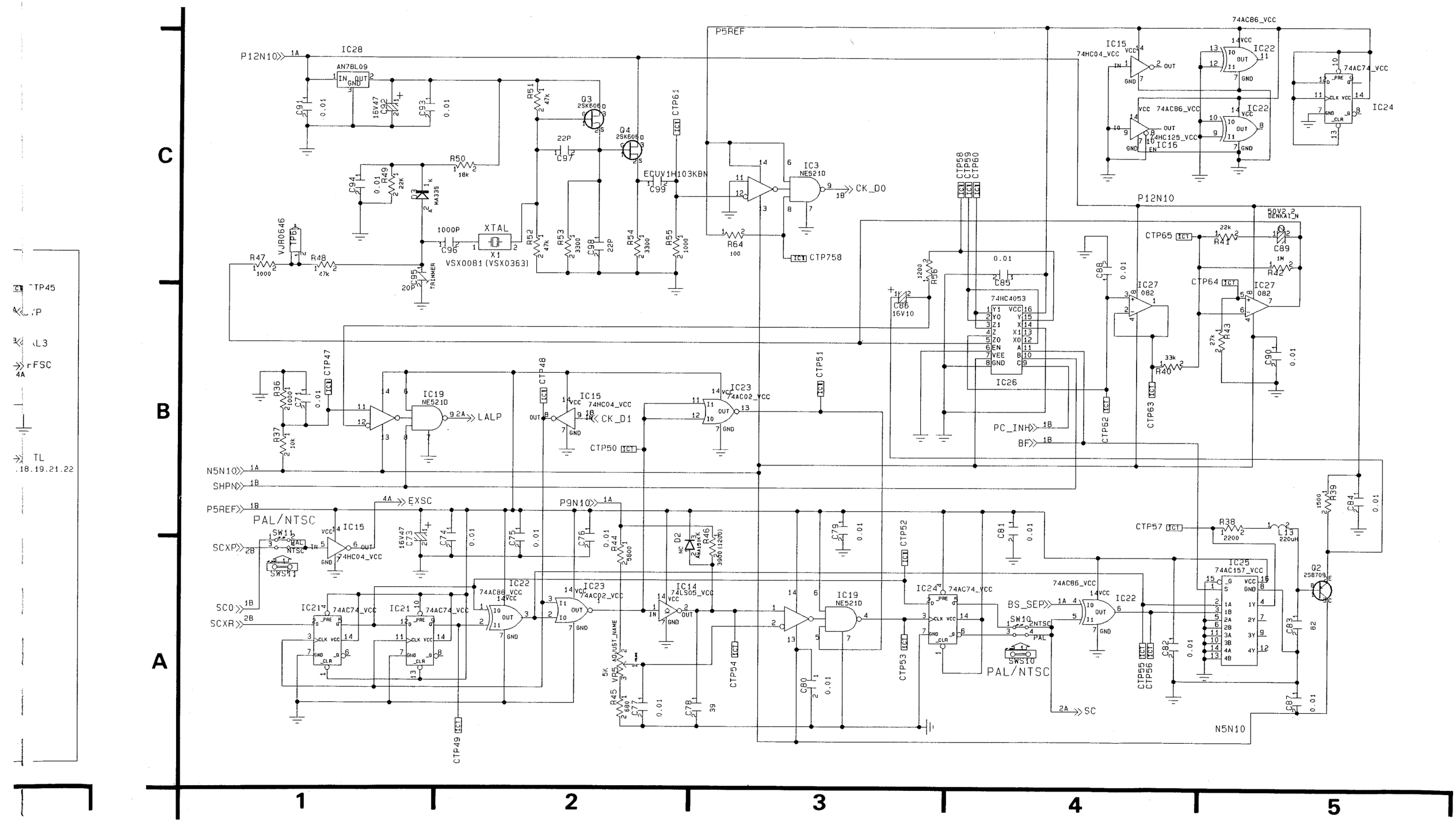

COMPARISON CHART BETWEEN
NTSC MODEL AND PAL MODEL
L4 VIDEO PROCESS P.C.B.

| REF. NO. | NTSC | PAL |
|---|---|---|
| IC8030 | VSI0948C | VSI0949D |
| IC8302 | VSI0805C | VSI0804B |
| IC8303 | VSI0807 | VSI0806 |
| IC8304 | VSI0809A | VSI0808D |
| IC8319 | VSI0960 | VSI0954 |
| IC8320 | VSI0961 | VSI0955 |
| IC8321 | VSI0944 | VSI0956 |
| IC8322 | VSI0945 | VSI0957 |
| IC8323 | VSI0946 | VSI0958 |
| IC8324 | VSI0947 | VSI0959 |
| IC8414 | VSI1086L | VSI1087L |
| IC8523 | VSI0811A | VSI0810A |
| IC8524 | VSI0813 | VSI0812 |
| IC8535 | VSI0822A | VSI0821A |
| IC8546 | VSI0824A | VSI0823A |
| IC8562 | VSI0819 | VSI0818A |
| IC8565 | VSI0815A | VSI0814A |
| IC8593 | VSI0990 | VSI0988 |
| IC8594 | VSI0991 | VSI0989 |
| IC8595 | VSI0999 | VSI0998 |
| IC8633 | VSI0831 | VSI0830 |
| IC8634 | VSI0833 | VSI0832 |
| IC8636 | VSI0837 | VSI0836 |
| IC8984 | VSI0841A | VSI0840A |
| IC8985 | VSI0843A | VSI0842A |
| X8001 | VSX0081 | VSX0363 |
| X8100 | VSX0338 | VSX0270 |
| X8201 | VSX0338 | VSX0270 |
| | VEP88071E | VEP88071F |

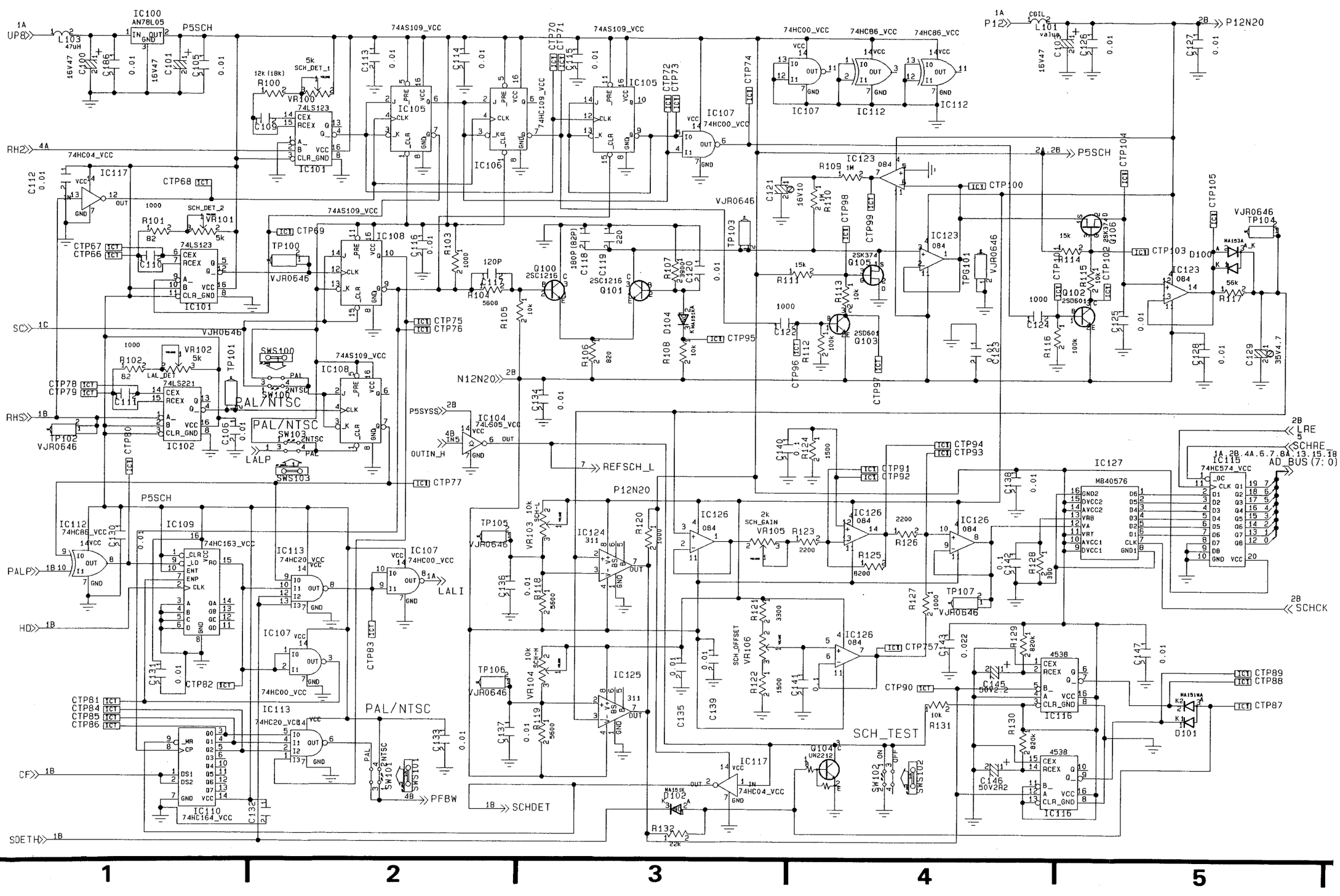
# L4 VIDEO PROCESS (SYNC GEN 1) SCHEMATIC DIAGRAM (1B/22)



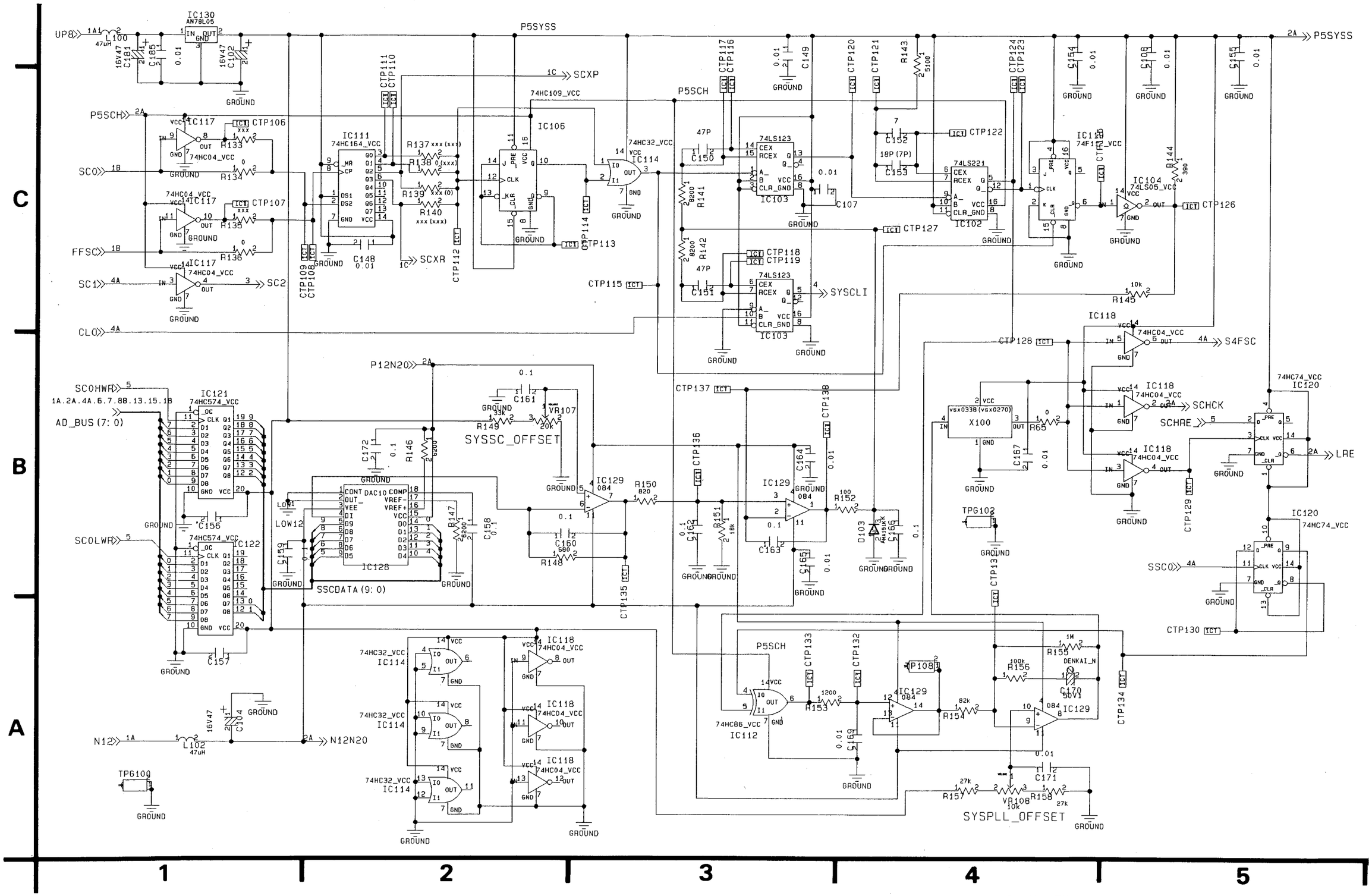
# L4 VIDEO PROCESS (SYNC GEN 1) SCHEMATIC DIAGRAM (1C/22)



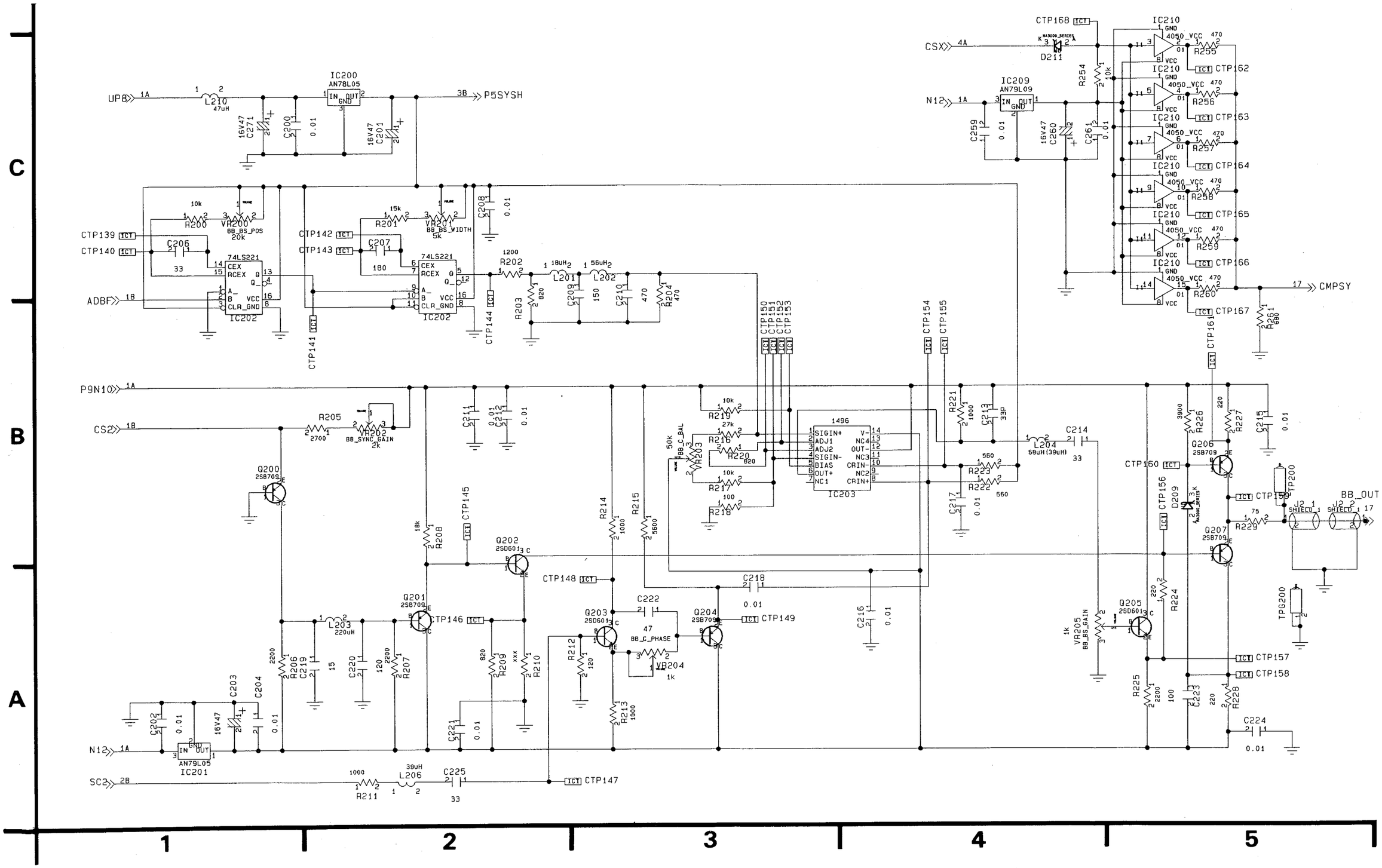
# L4 VIDEO PROCESS (SYNC GEN 2) SCHEMATIC DIAGRAM (2A/22)



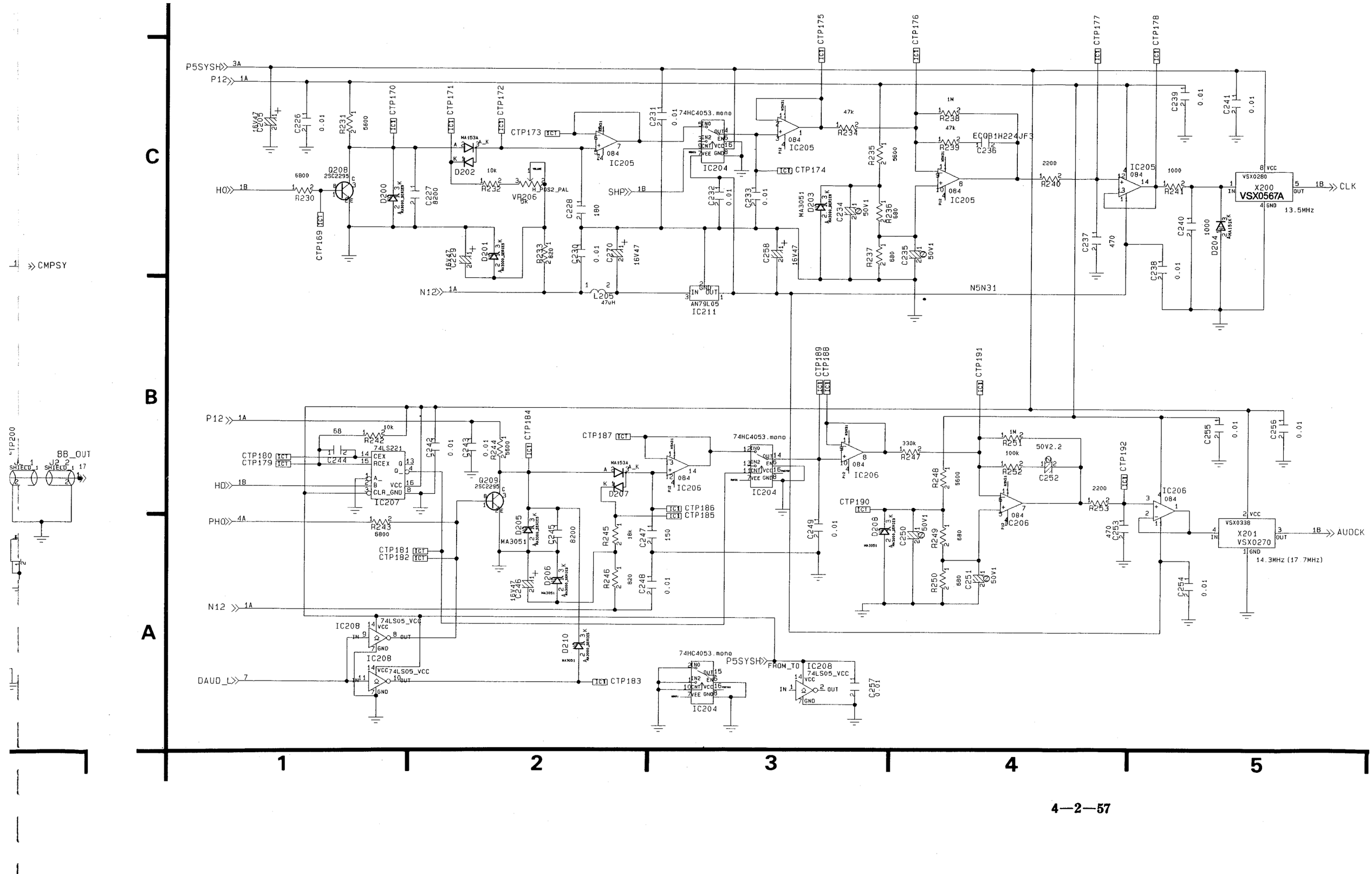
# L4 VIDEO PROCESS (SYNC GEN 2) SCHEMATIC DIAGRAM (2B/22)



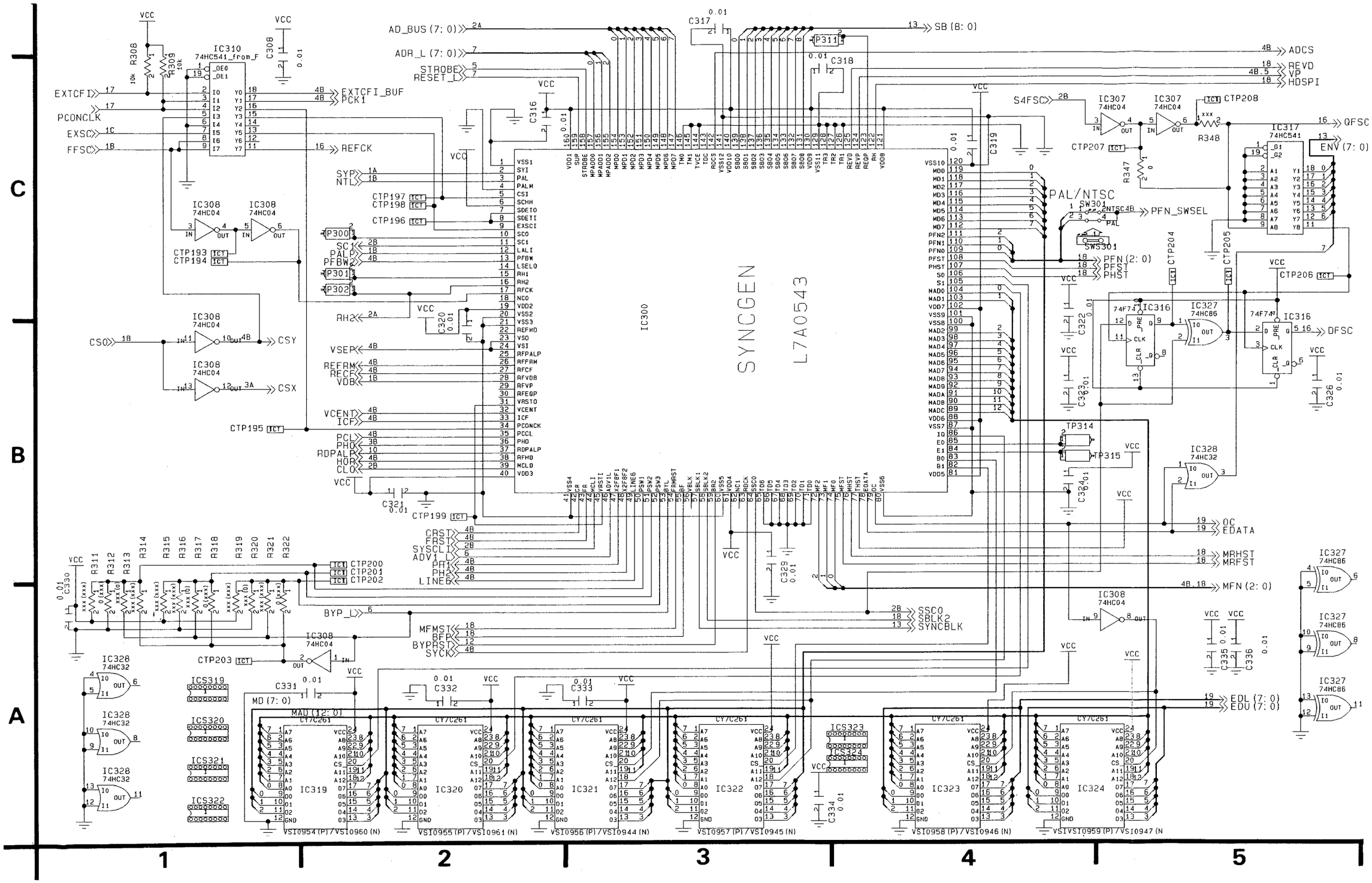
# L4 VIDEO PROCESS (SYNC GEN 3) SCHEMATIC DIAGRAM (3A/22)



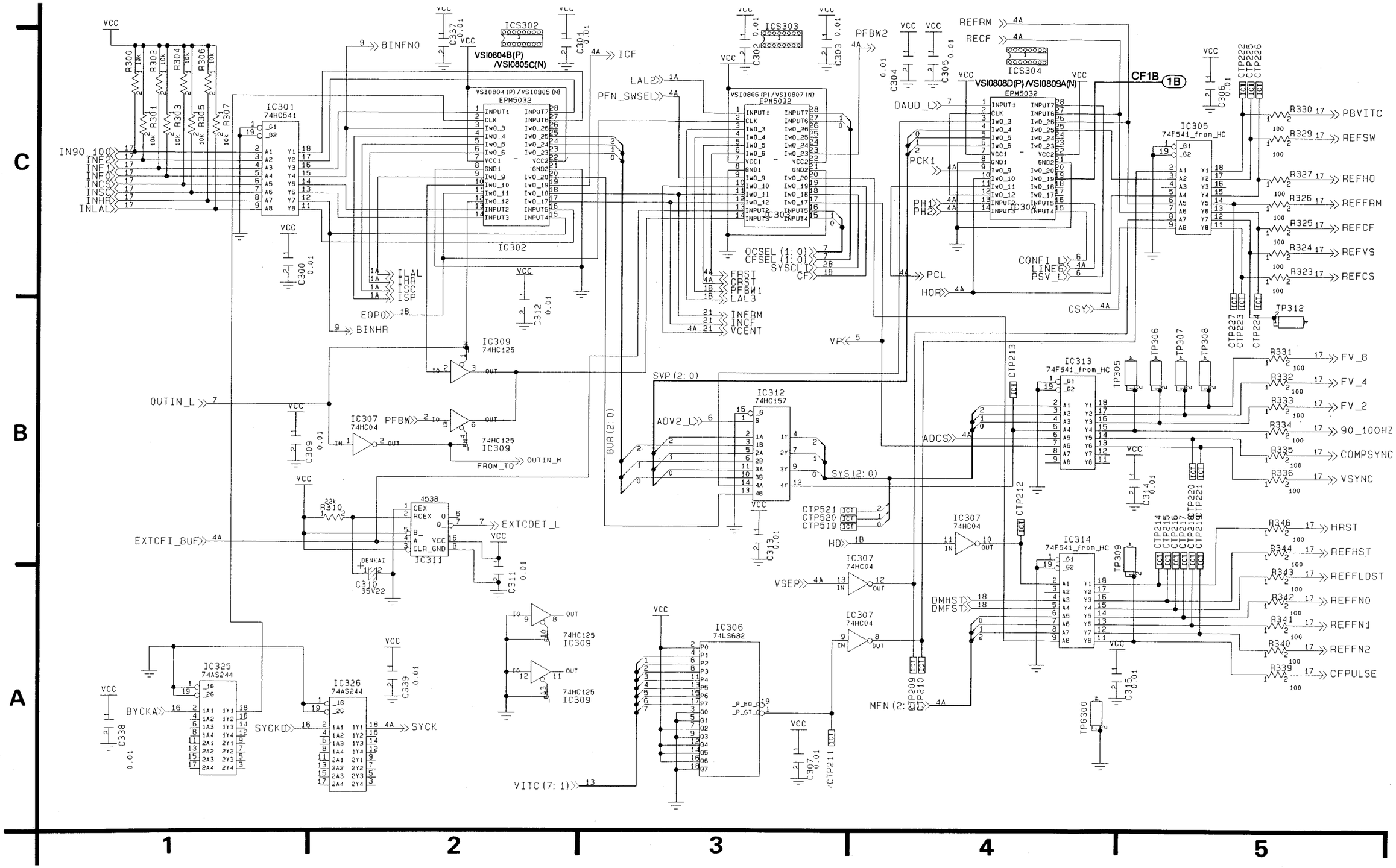
# L4 VIDEO PROCESS (SYNC GEN 3) SCHEMATIC DIAGRAM (3B/22)



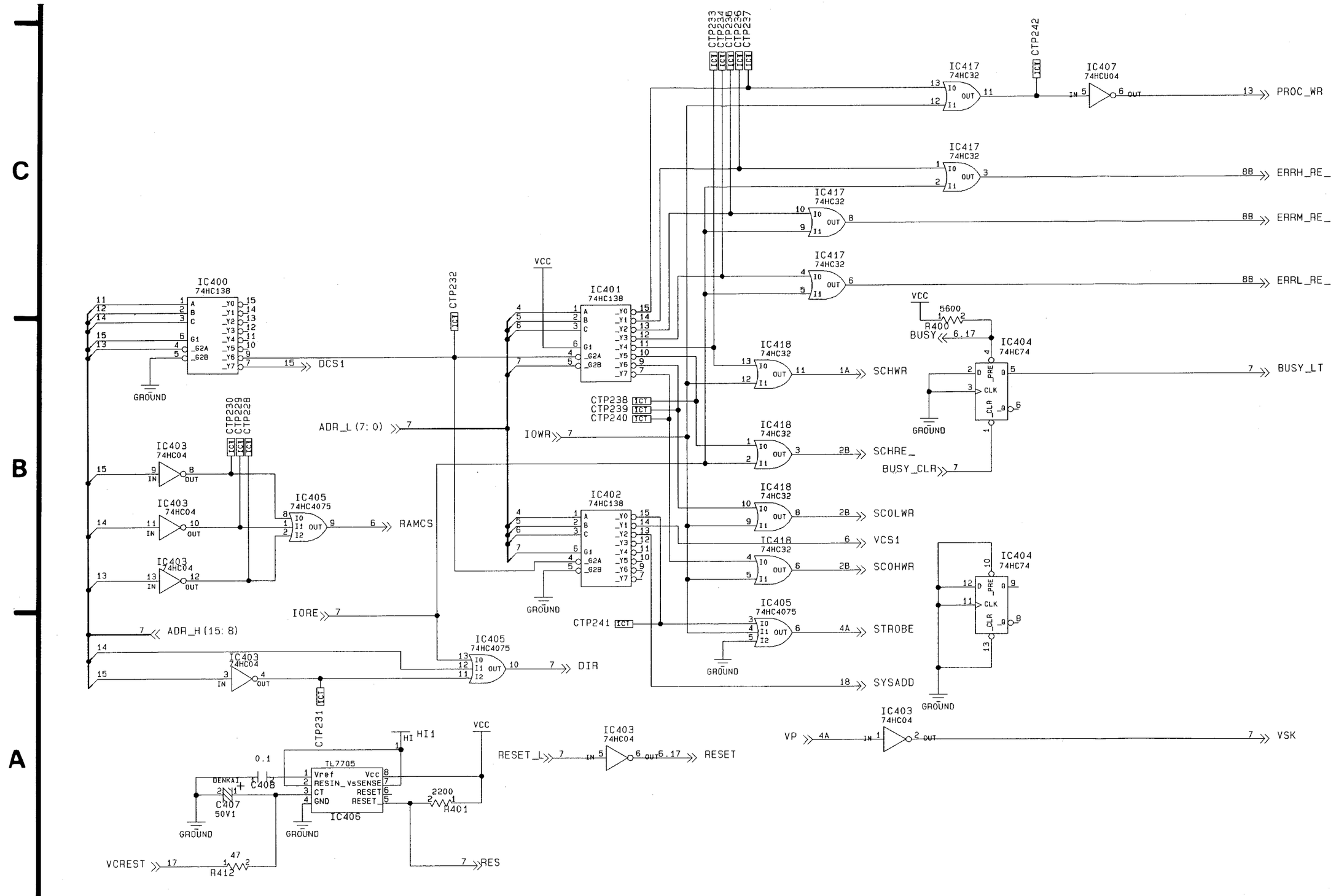
# L4 VIDEO PROCESS (SYNC GEN 4) SCHEMATIC DIAGRAM (4A/22)



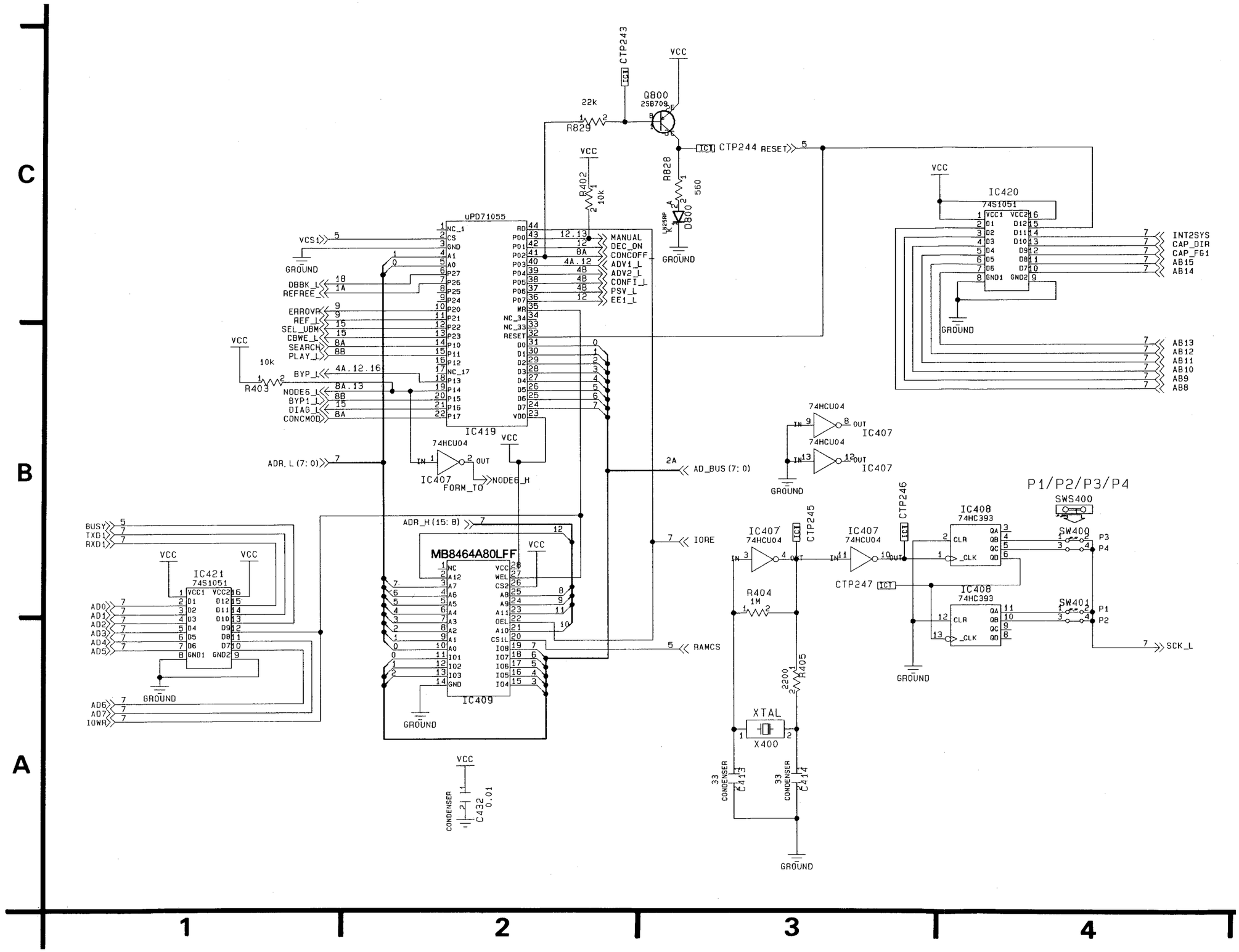
# L4 VIDEO PROCESS (SYNC GEN 4) SCHEMATIC DIAGRAM (4B/22)



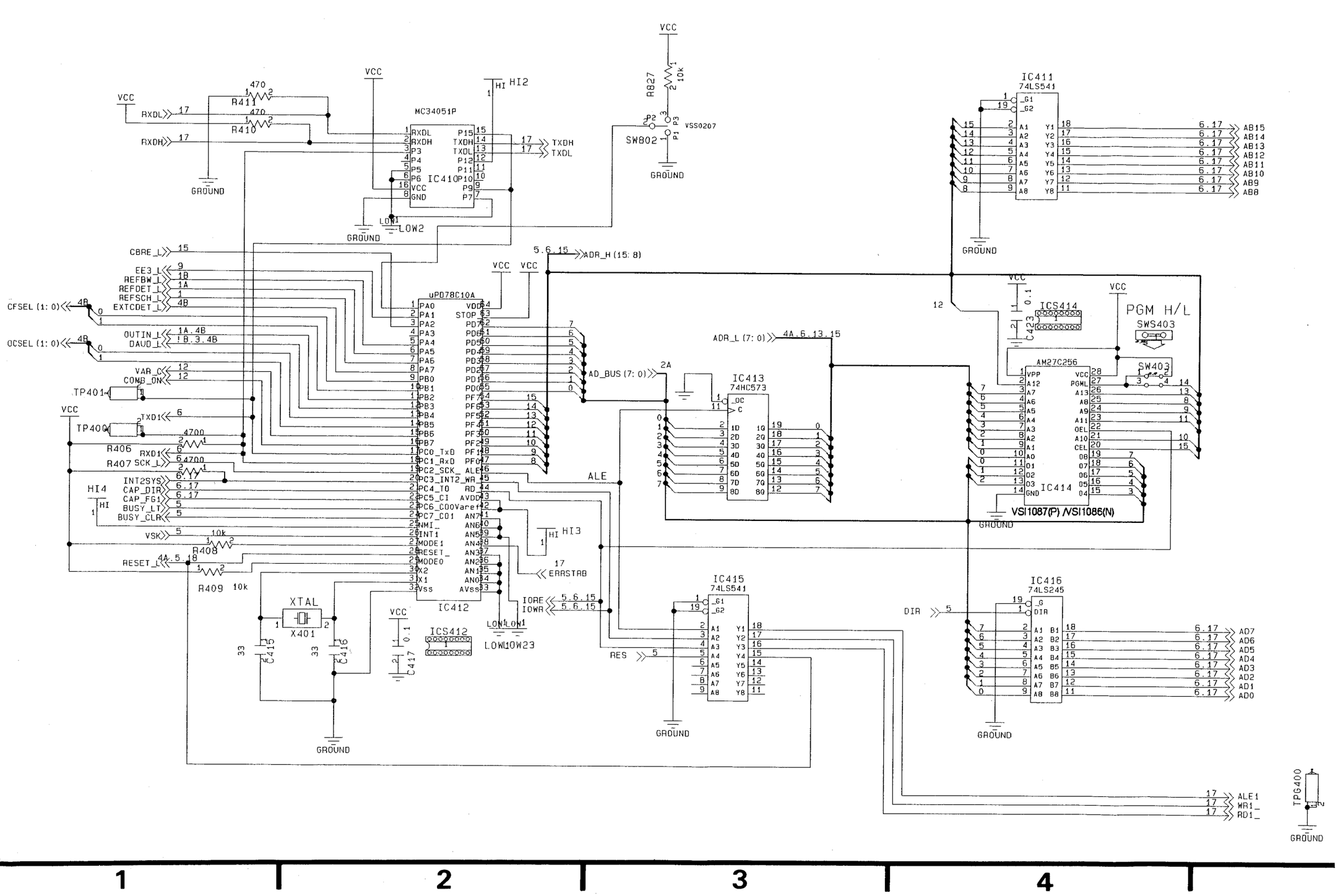
# L4 VIDEO PROCESS (VIDEO CPU 1) SCHEMATIC DIAGRAM (5/22)



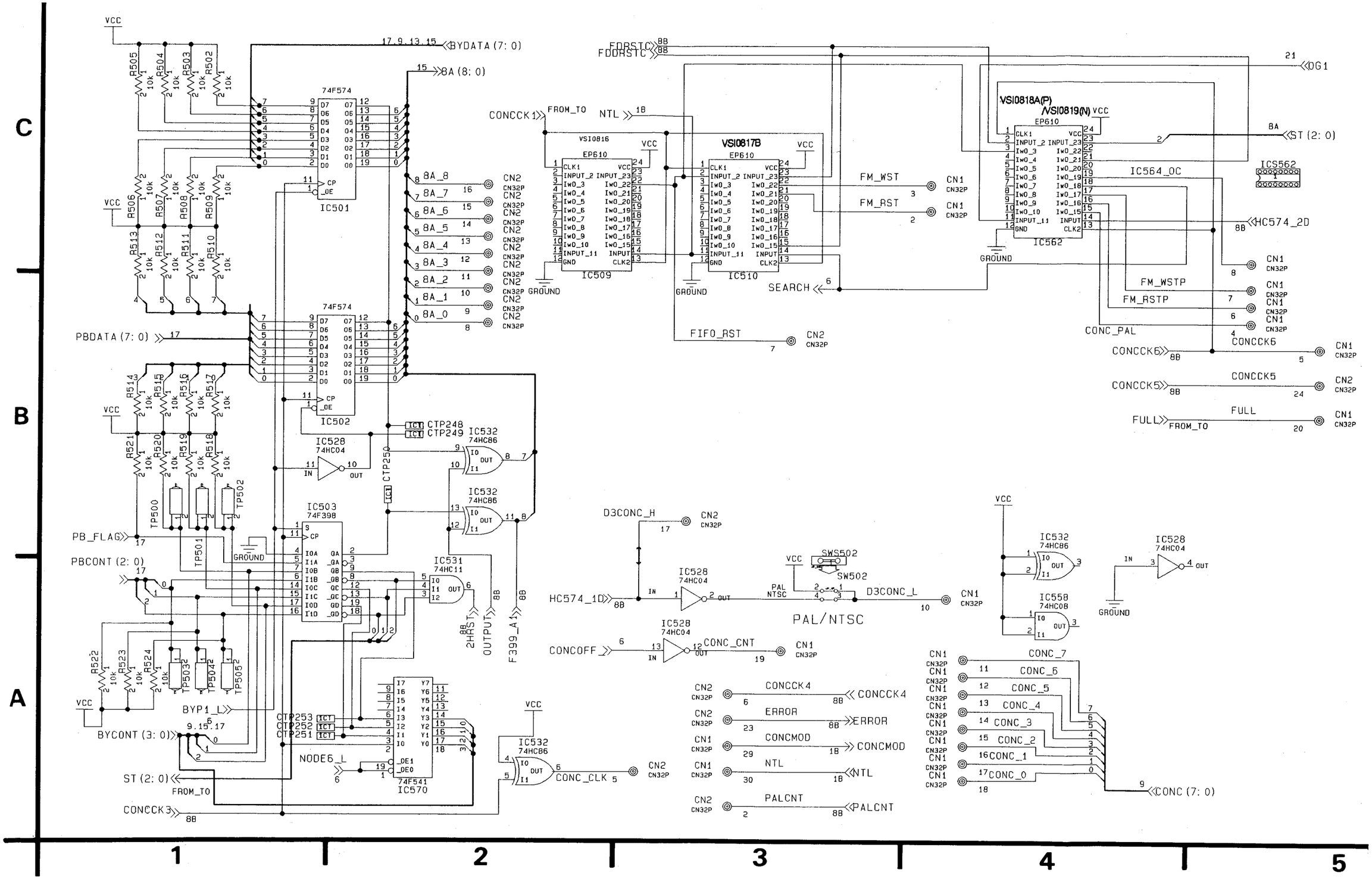
# L4 VIDEO PROCESS (VIDEO CPU 2) SCHEMATIC DIAGRAM (6/22)



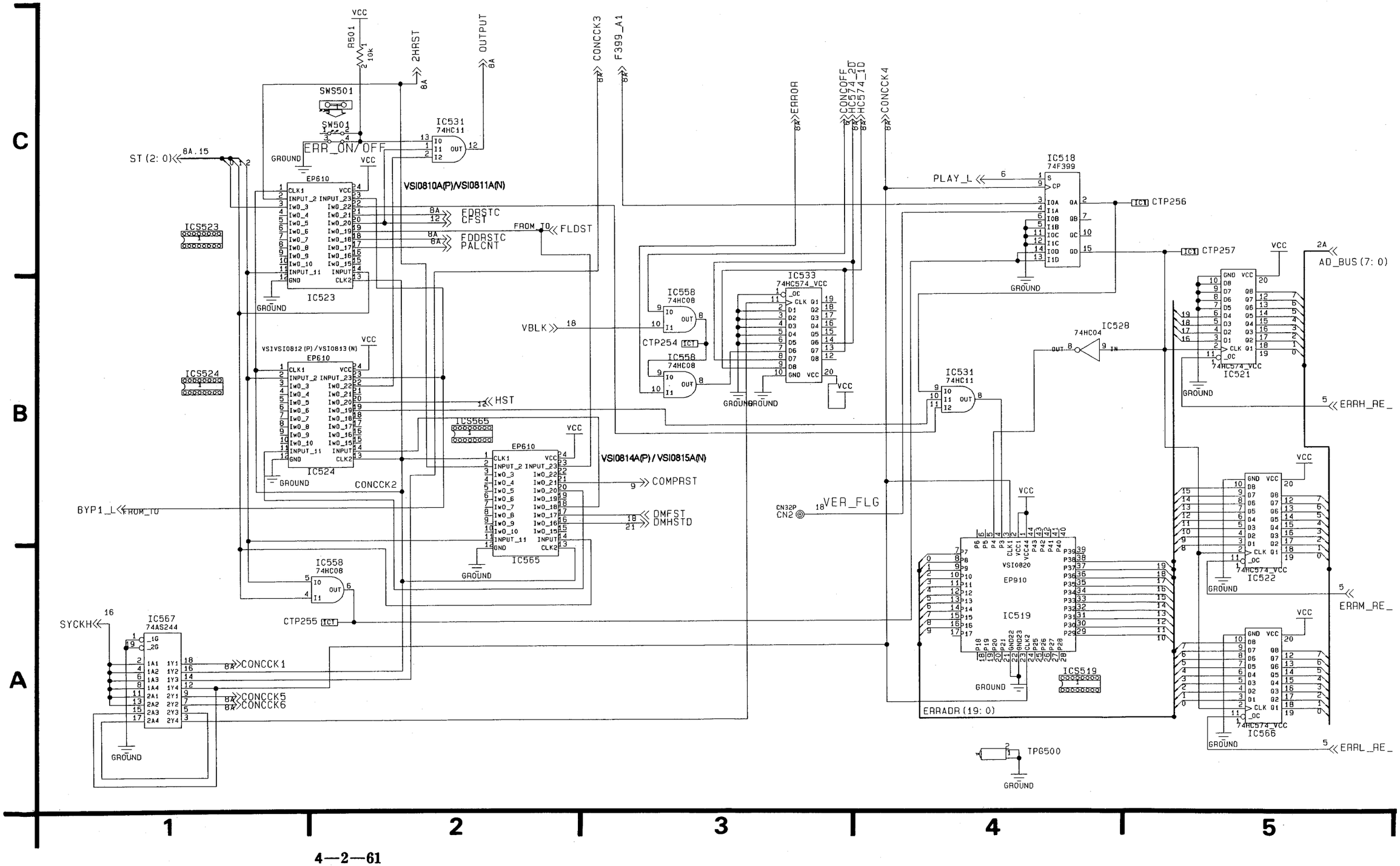
# L4 VIDEO PROCESS (VIDEO CPU 3) SCHEMATIC DIAGRAM (7/22)



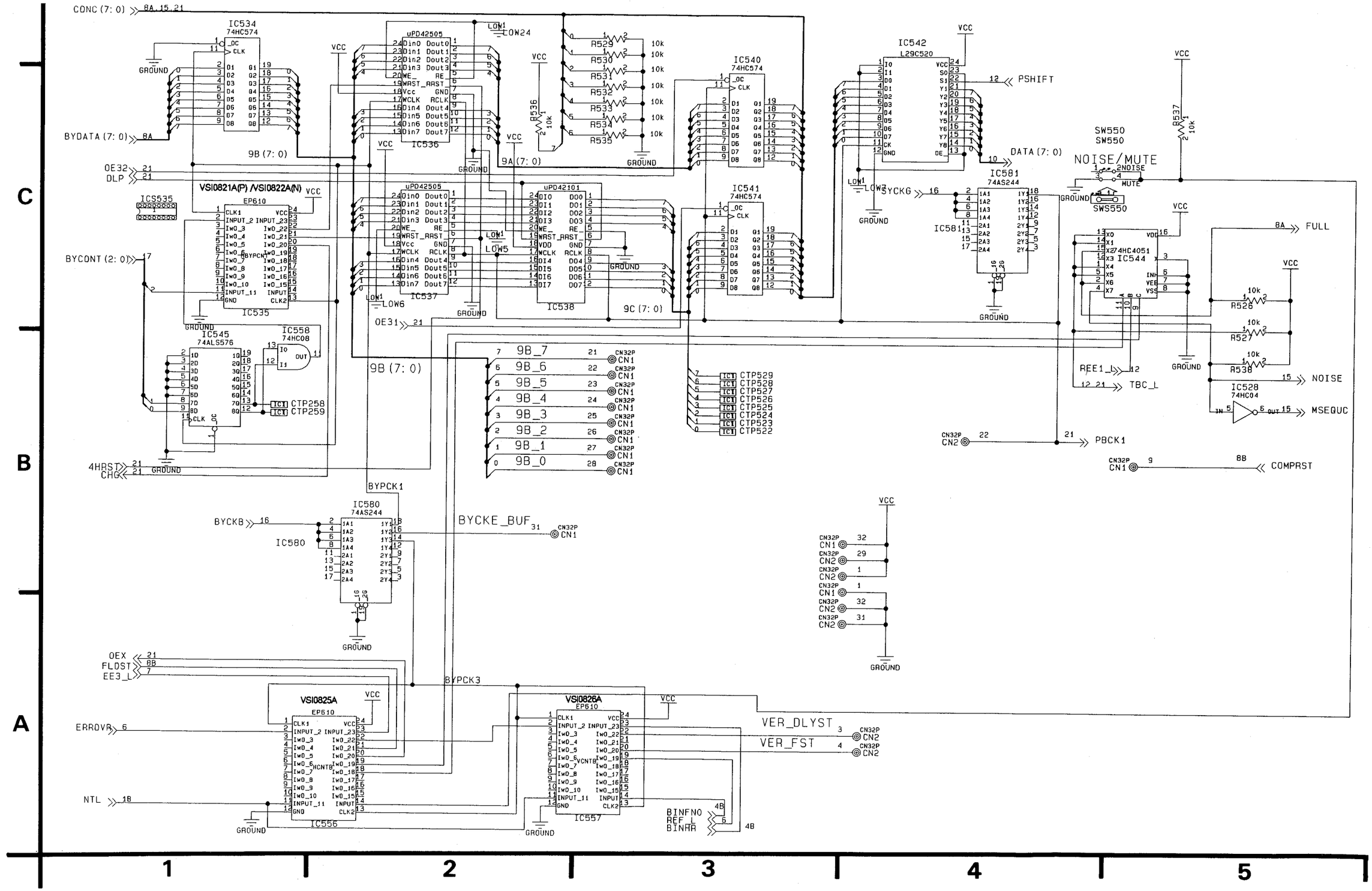
# L4 VIDEO PROCESS (CONC) SCHEMATIC DIAGRAM (8A/22)



# L4 VIDEO PROCESS (CONC) SCHEMATIC DIAGRAM (8B/22)

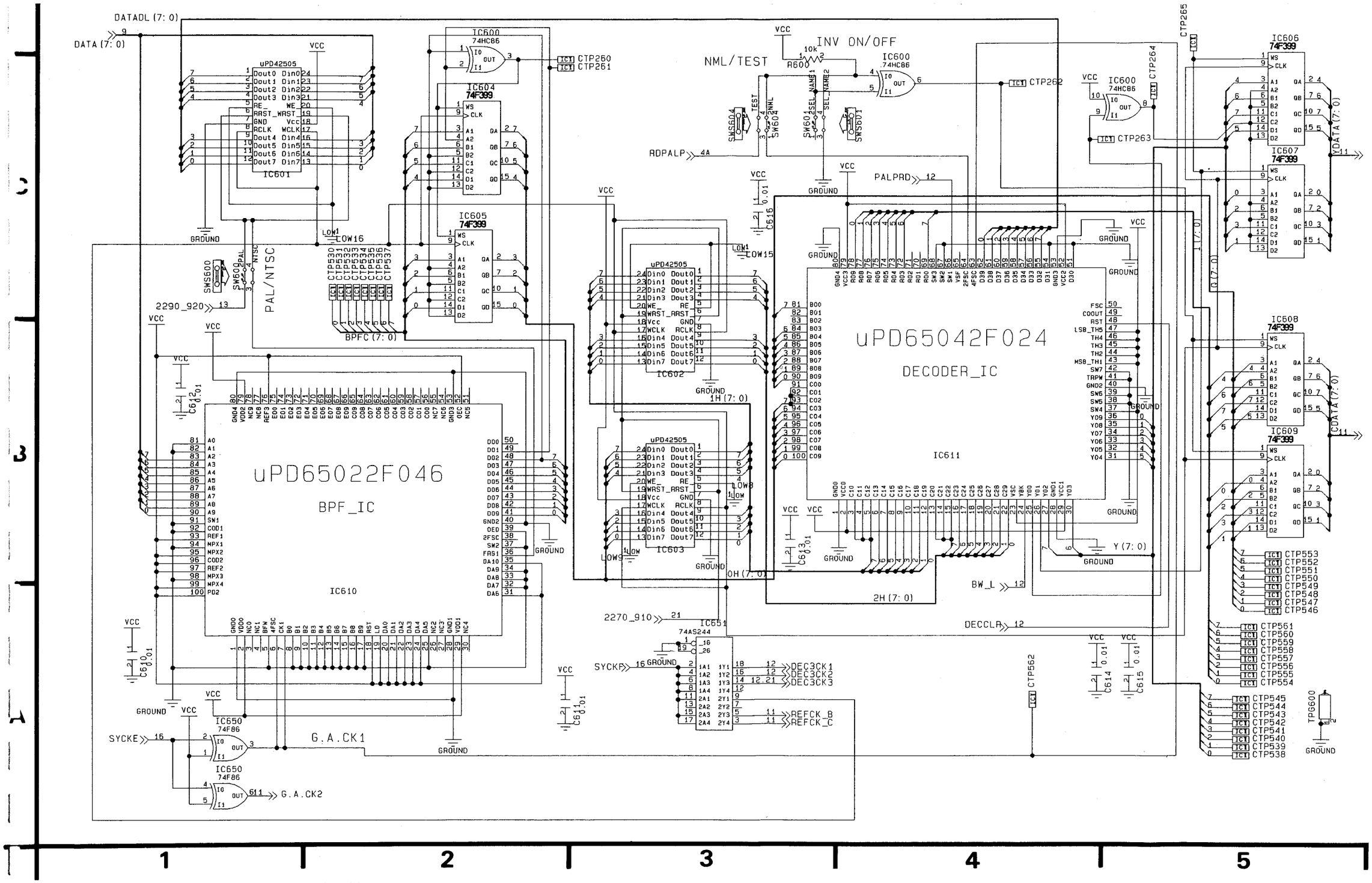


# L4 VIDEO PROCESS (TBC) SCHEMATIC DIAGRAM (9/22)

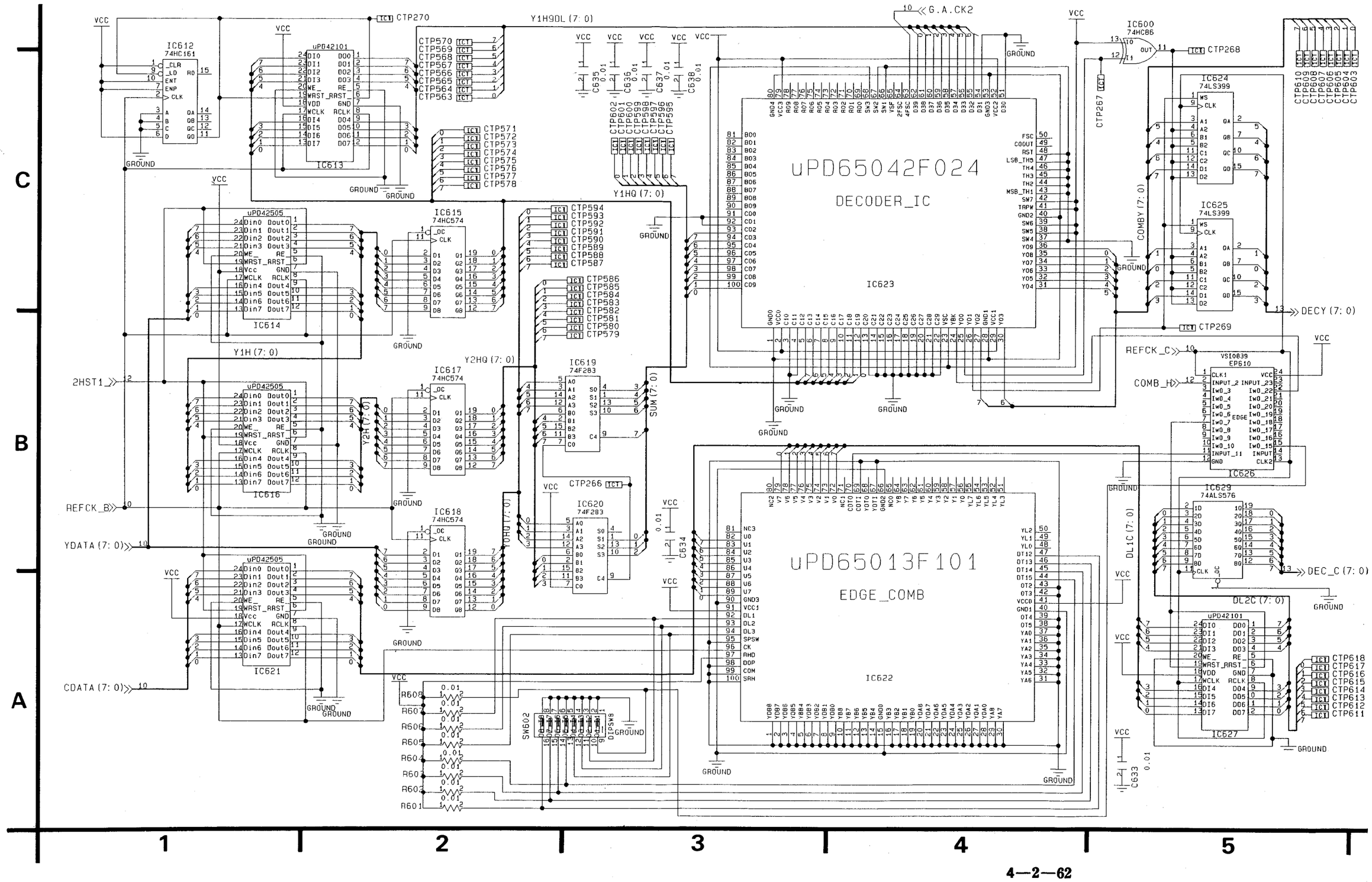



4—2—61

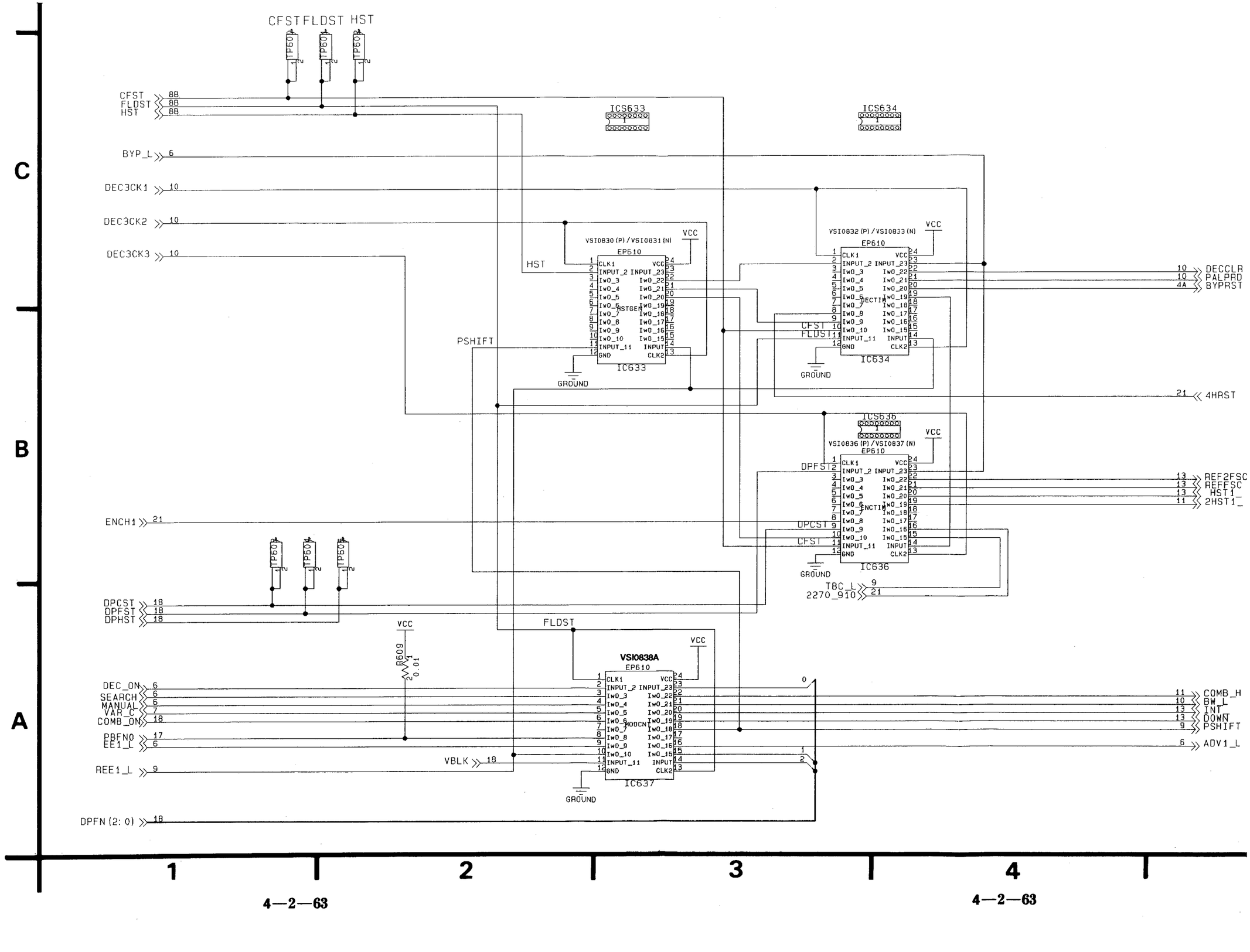
# L4 VIDEO PROCESS (DEC 1) SCHEMATIC DIAGRAM (10/22)



# L4 VIDEO PROCESS (DEC 2) SCHEMATIC DIAGRAM (11/22)



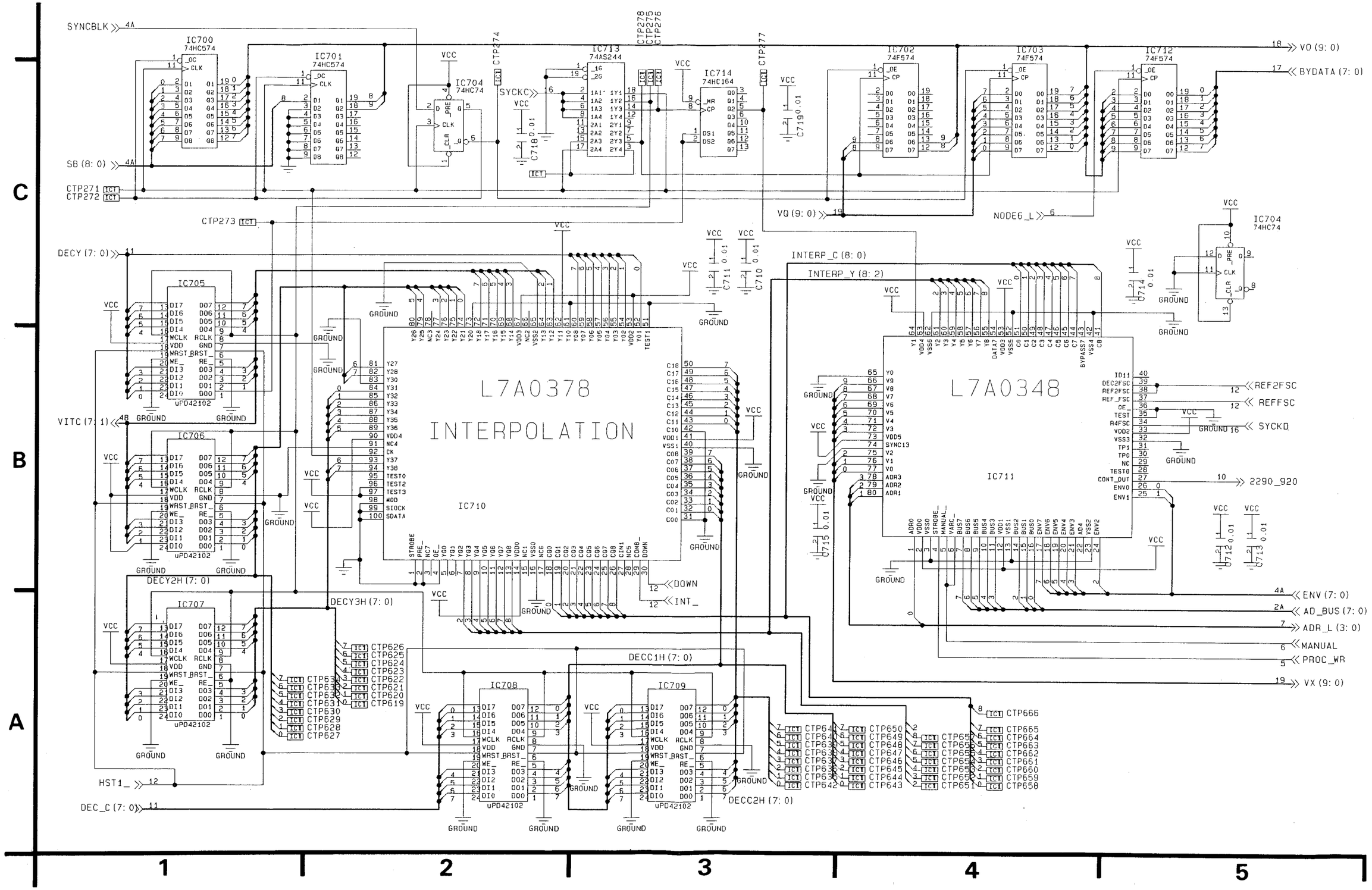
# L4 VIDEO PROCESS (DEC 3) SCHEMATIC DIAGRAM (12/22)



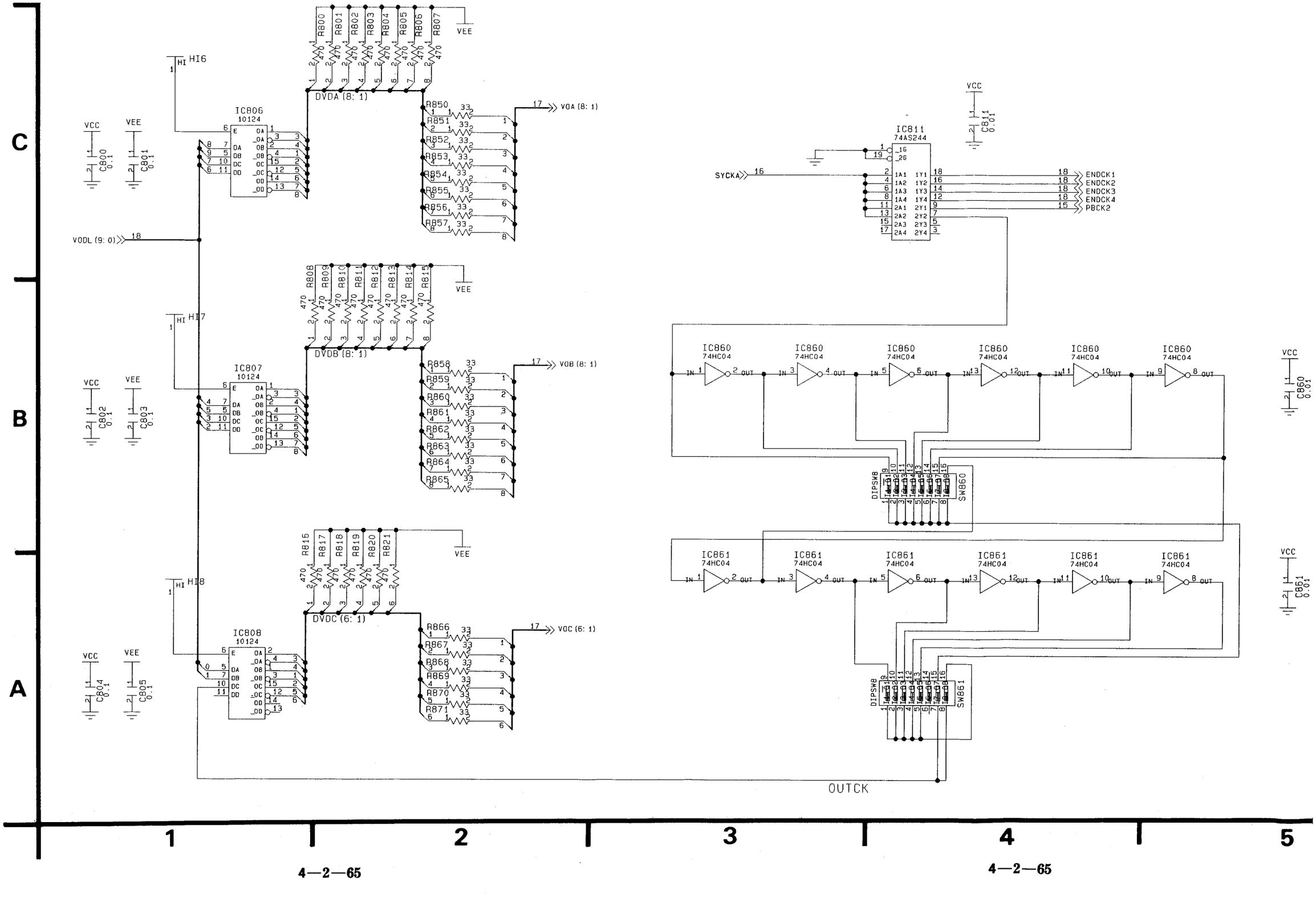



4—2—63

# L4 VIDEO PROCESS (OUT PROC) SCHEMATIC DIAGRAM (13/22)



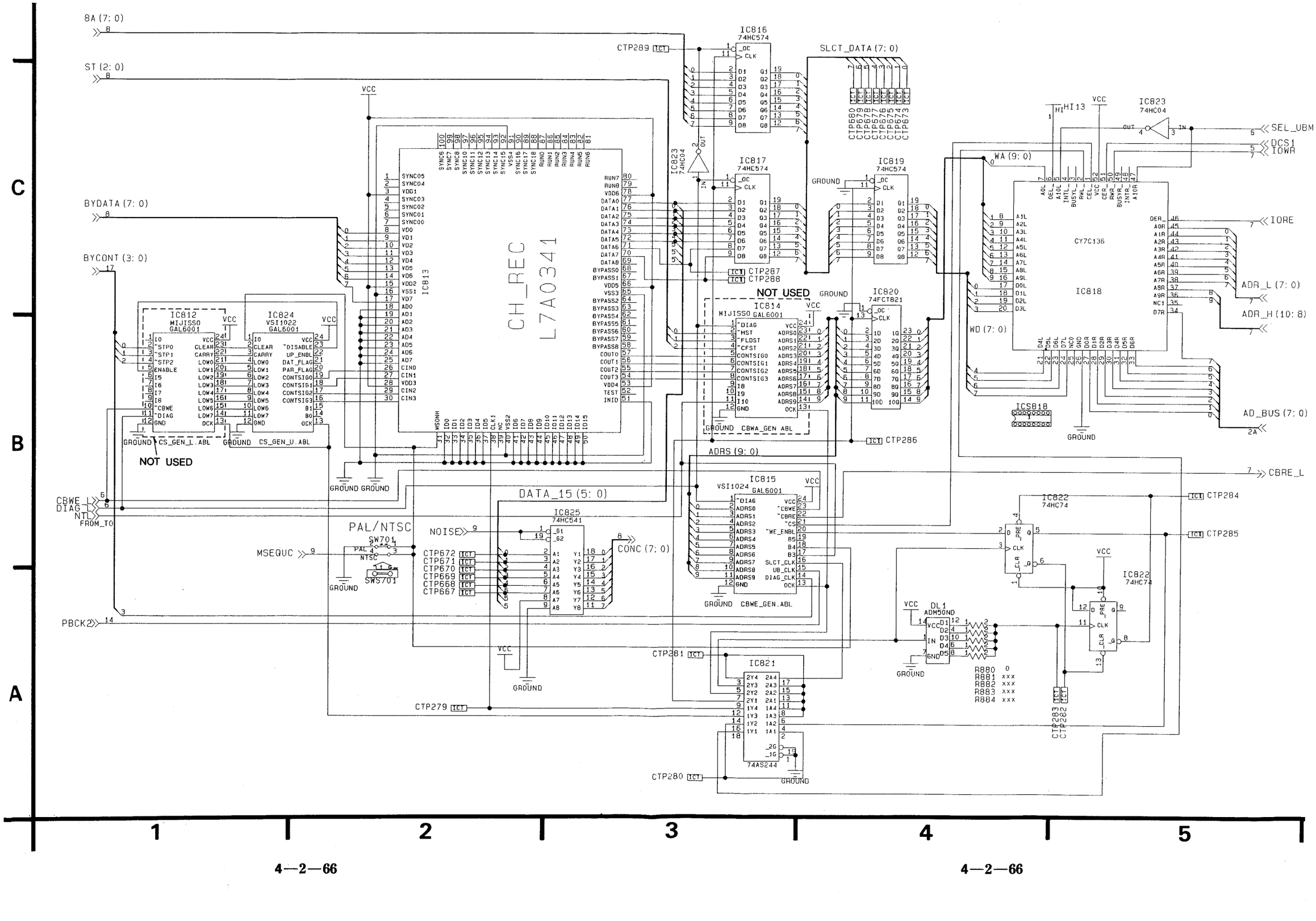
# L4 VIDEO PROCESS (D IF) SCHEMATIC DIAGRAM (14/22)




4—2—65

4—2—65

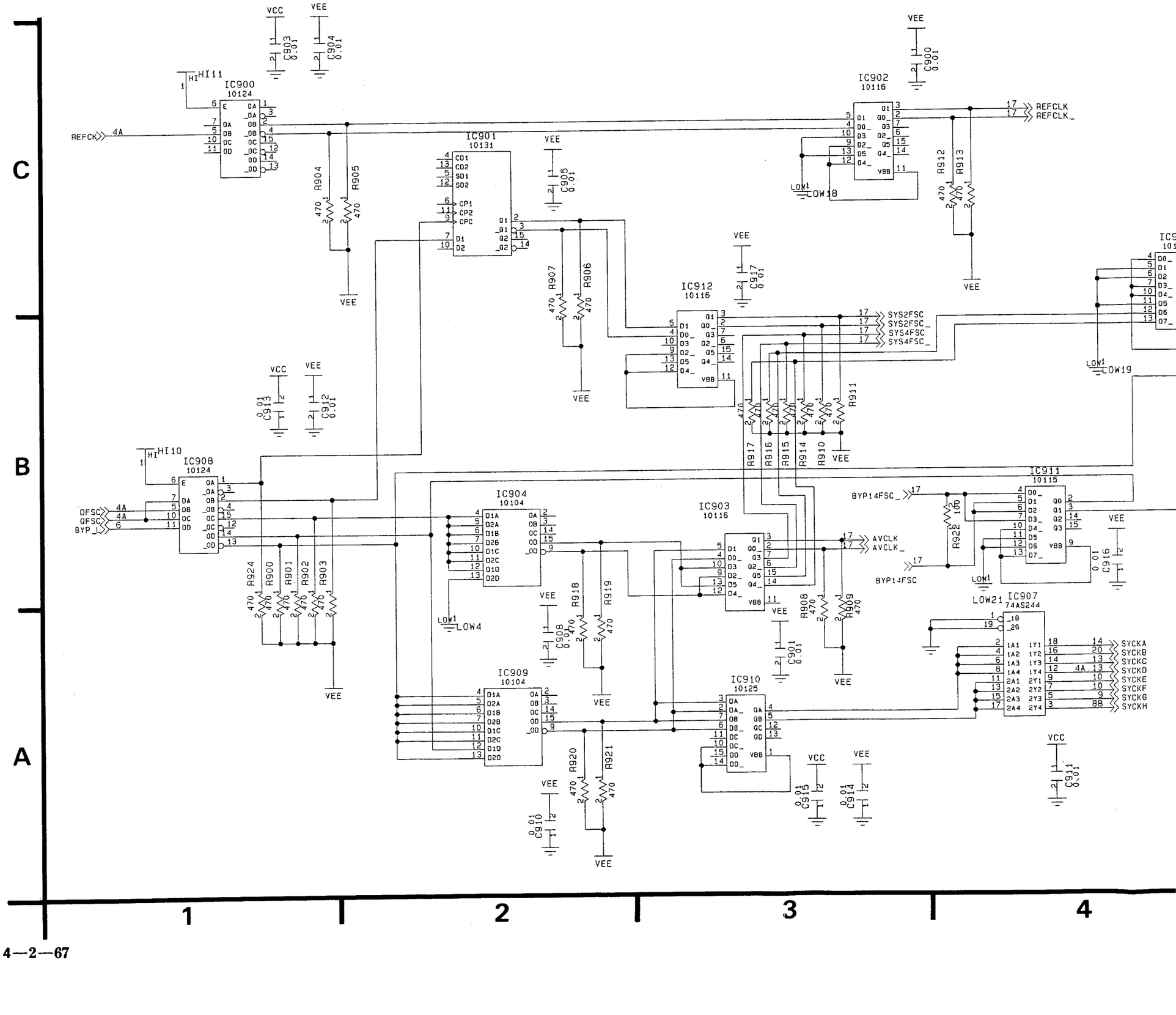
# L4 VIDEO PROCESS (DIAG I/O) SCHEMATIC DIAGRAM (15/22)



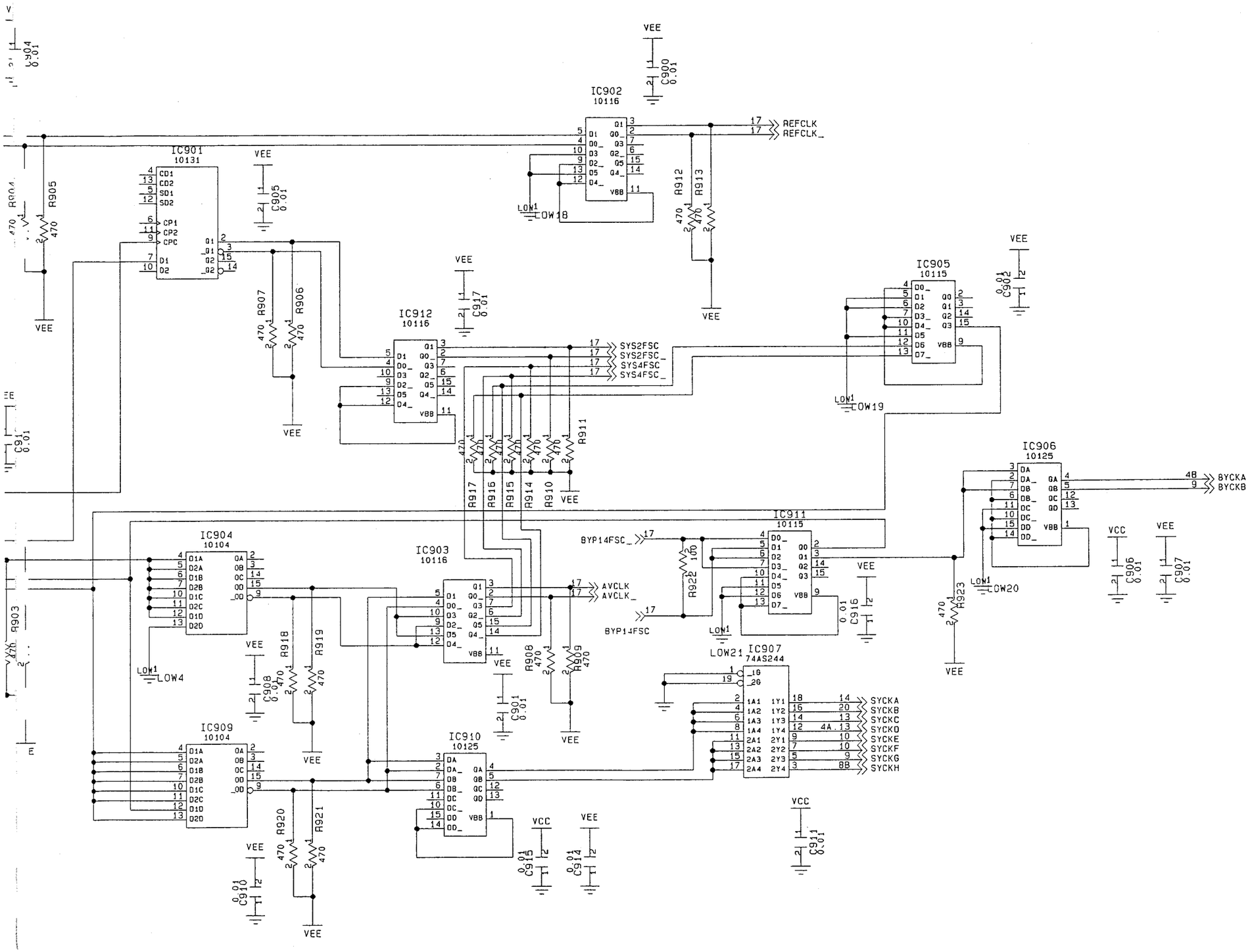

4—2—66

4—2—66

# L4 VIDEO PROCESS (CLK BUF) SCHEMATIC DIAGRAM (16/22)



# F) SCHEMATIC DIAGRAM (16/22)

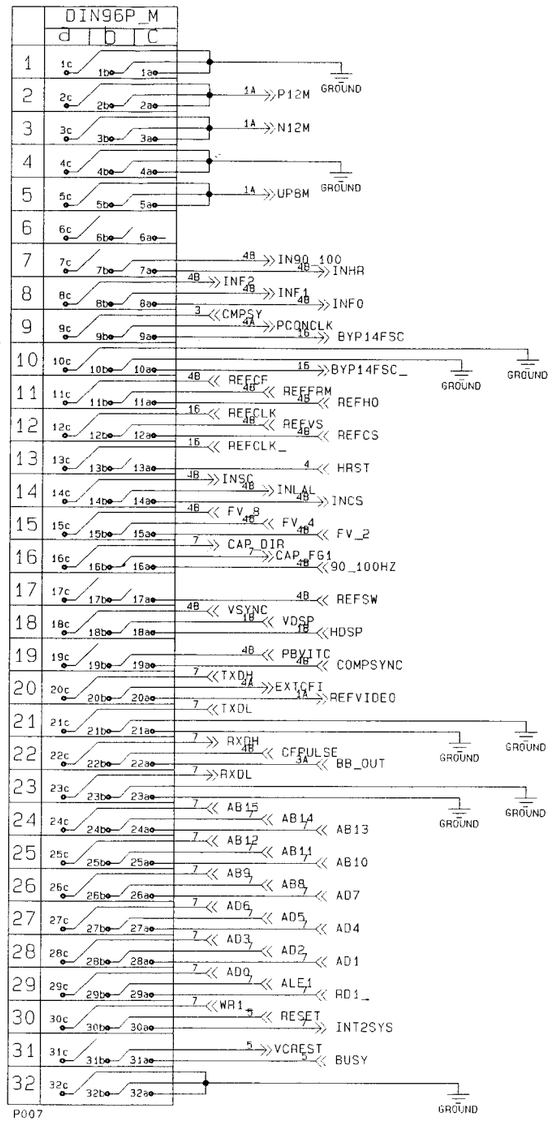


# L4 VIDEO PROCESS (CONNECTOR) SCHEMATIC DIAGRAM (17/22)

| P007 | A | L 4 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (A) | | | | |
| 2 | +12V (A) | | | | |
| 3 | -12V (A) | | | | |
| 4 | GND (A) | | | | |
| 5 | +8V (un) | | | | |
| 6 | -8V (un) | | | | |
| 7 | INCOM HR | P003-7A | | | |
| 8 | INCOM FN0 | P003-8A | | | |
| 9 | BYP1 4FSC | P003-9A | | | |
| 10 | BYP1 4FSC | P003-10A | | | |
| 11 | REF HD | P003-11A | | | |
| 12 | REF CS | P003-12A | | | |
| 13 | H RST | P003-13A | | | |
| 14 | INCOM CS | P003-14A | | | |
| 15 | FV/2 | P024-7B | P004-19B | | |
| 16 | 30HZ/100HZ | P024-8B | | | |
| 17 | REF REC SW | P004-5C | | | |
| 18 | SPI HD | P019-18A | | | |
| 19 | PB COMP SYNC | P019-15A | | | |
| 20 | REF VIDEO IN | P029-1 | | | |
| 21 | REF VIDEO IN GND | P029-2 | | | |
| 22 | BLACK BURST | P029-3 | | | |
| 23 | BLACK BURST GND | P029-4 | | | |
| 24 | AV AB 13 | P024-16A | P001-24A | P003-24A | P005-24A |
| 25 | AV AB 10 | P024-19A | P001-25A | P003-25A | P005-25A |
| 26 | AV AD 7 | P024-23A | P001-26A | P003-26A | P005-26A |
| 27 | AV AD 4 | P024-26A | P001-27A | P003-27A | P005-27A |
| 28 | AV AD 1 | P024-29A | P001-28A | P003-28A | P005-28A |
| 29 | AV RD | P024-12A | P001-29A | P003-29A | P005-29A |
| 30 | AV SYS INT | P024-13A | | | |
| 31 | AV BUSY | P024-10A | | | |
| 32 | GND (D) | | | | |

| P007 | B | L 4 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (A) | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | INCOM REC SW | P003-7B | | | |
| 8 | INCOM FN 1 | P003-8B | | | |
| 9 | PCON CLK (4.5M) | P003-9B | P005-13B | | |
| 10 | PCON CLK GND | P003-10B | P005-14B | | |
| 11 | REF FRM | P003-11B | | | |
| 12 | REF VS | P003-12B | | | |
| 13 | | | | | |
| 14 | INCOM LALT | P003-14B | | | |
| 15 | FV/4 | P024-6B | | | |
| 16 | CAP FG1 | P019-19A | | | |
| 17 | | | | | |
| 18 | SPI VD | P019-17A | | | |
| 19 | PB VITC | P019-16A | | | |
| 20 | EXT CF IN | P029-5 | P004-9C | | |
| 21 | EXT CF IN GND | P029-6 | | | |
| 22 | CF PULSE | P029-7 | | | |
| 23 | CF PULSE GND | P029-8 | | | |
| 24 | AV AB 14 | P024-15A | P001-24B | P003-24B | P005-24B |
| 25 | AV AB 11 | P024-18A | P001-25B | P003-25B | P005-25B |
| 26 | AV AB 8 | P024-21A | P001-26B | P003-26B | P005-26B |
| 27 | AV AD 5 | P024-25A | P001-27B | P003-27B | P005-27B |
| 28 | AV AD 2 | P024-28A | P001-28B | P003-28B | P005-28B |
| 29 | AV ALE | P024-22A | P001-29B | P003-29B | P005-29B |
| 30 | AV RESET | P024-9A | P001-30B | P003-30B | P005-30B |
| 31 | VCP RESET | P019-5A | | | |
| 32 | GND (A) | | | | |

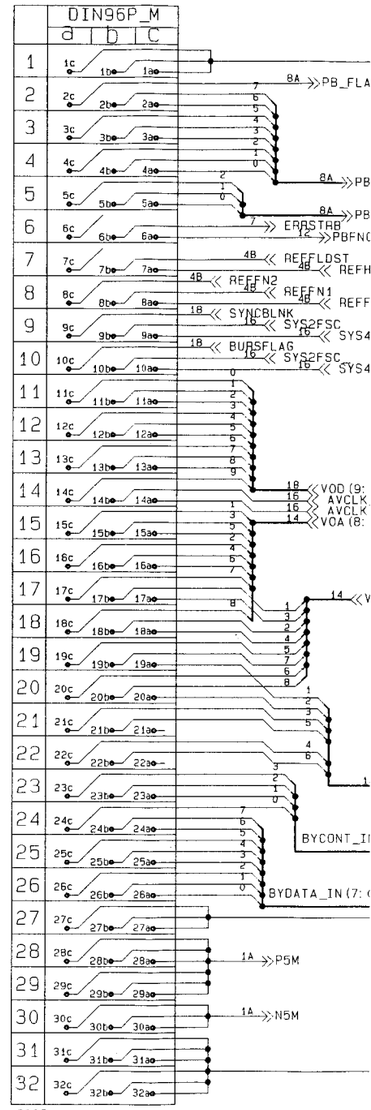
| P007 | C | L 4 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (A) | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | INCOM FN2 | P003-6C | | | |
| 9 | CMPSY | P026-1 | | | |
| 10 | GND (A) | P026-2 | | | |
| 11 | REF CF | P003-11C | | | |
| 12 | REF CLK | P003-12C | | | |
| 13 | REF CLK | P003-13C | | | |
| 14 | INCOM SC | P003-14C | | | |
| 15 | FV/8 | P024-5B | | | |
| 16 | CAP DIR | P019-20A | | | |
| 17 | | | | | |
| 18 | PB V SYNC | P019-14A | | | |
| 19 | | | | | |
| 20 | TXD | P036-1 | | | |
| 21 | TXD | P036-2 | | | |
| 22 | RXD | P036-3 | | | |
| 23 | RXD | P036-4 | | | |
| 24 | AV AB 15 | P024-14A | P001-24C | P003-24C | P005-24C |
| 25 | AV AB 12 | P024-17A | P001-25C | P003-25C | P005-25C |
| 26 | AV AB 9 | P024-20A | P001-26C | P003-26C | P005-26C |
| 27 | AV AD 6 | P024-24A | P001-27C | P003-27C | P005-27C |
| 28 | AV AD 3 | P024-27A | P001-28C | P003-28C | P005-28C |
| 29 | AV AD 0 | P024-30A | P001-29C | P003-29C | P005-29C |
| 30 | AV WR | P024-11A | P001-30C | P003-30C | P005-30C |
| 31 | | | | | |
| 32 | GND (D) | | | | |




| P008 | D | L 4 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | PB DATA 5 | P006-2A | | | |
| 3 | PB DATA 3 | P006-3A | | | |
| 4 | PB DATA 0 | P006-4A | | | |
| 5 | PB HST | P006-5A | | | |
| 6 | PB FN 0 | P006-6A | | | |
| 7 | REF HST | P006-7A | | | |
| 8 | REF FN 0 | P006-8A | | | |
| 9 | SYS 4FSC | P006-9A | | | |
| 10 | SYS 4FSC | P006-10A | | | |
| 11 | AV DATA 5 | P002-11A | | | |
| 12 | AV DATA 2 | P002-12A | | | |
| 13 | AV DATA -1 | P002-13A | | | |
| 14 | AV CLK 0 | P002-14A | | | |
| 15 | DV DATA OUT 5 | P027-5 | | | |
| 16 | DV DATA OUT 5 | P027-6 | | | |
| 17 | DV DATA OUT 2 | P028-1 | | | |
| 18 | DV DATA OUT 2 | P028-2 | | | |
| 19 | DV DATA OUT-1 | P028-7 | | | |
| 20 | DV DATA OUT-1 | P028-8 | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | BYP 9 | P004-23A | P006-23A | | |
| 24 | BYP 6 | P004-24A | P006-24A | | |
| 25 | BYP 3 | P004-25A | P006-25A | | |
| 26 | BYP 0 | P004-26A | P006-26A | | |
| 27 | GND (D) | | | | |
| 28 | +5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | -5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

| P008 | B | L 4 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | PB DATA 7 | P006-2B | | | |
| 3 | PB DATA 4 | P006-3B | | | |
| 4 | PB DATA 1 | P006-4B | | | |
| 5 | PB FLDST | P006-5B | | | |
| 6 | ERR STRB | P006-6B | | | |
| 7 | REF FLDST | P006-7B | | | |
| 8 | REF FN1 | P006-8B | | | |
| 9 | SYS 2FSC | P006-9B | | | |
| 10 | SYS 2FSC | P006-10B | | | |
| 11 | AV DATA 6 | P002-11B | | | |
| 12 | AV DATA 3 | P002-12B | | | |
| 13 | AV DATA 0 | P002-13B | | | |
| 14 | AV CLK 0 | P002-14B | | | |
| 15 | DV DATA OUT 6 | P027-3 | | | |
| 16 | DV DATA OUT 6 | P027-4 | | | |
| 17 | DV DATA OUT 3 | P027-9 | | | |
| 18 | DV DATA OUT 3 | P027-10 | | | |
| 19 | DV DATA OUT 0 | P028-5 | | | |
| 20 | DV DATA OUT 0 | P028-6 | | | |
| 21 | DV CLK 0 | P028-11 | | | |
| 22 | DV CLK 0 | P028-12 | | | |
| 23 | BYP 10 | P004-23B | P006-23B | | |
| 24 | BYP 7 | P004-24B | P006-24B | | |
| 25 | BYP 4 | P004-25B | P006-25B | | |
| 26 | BYP 1 | P004-26B | P006-26B | | |
| 27 | GND (D) | | | | |
| 28 | +5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | -5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

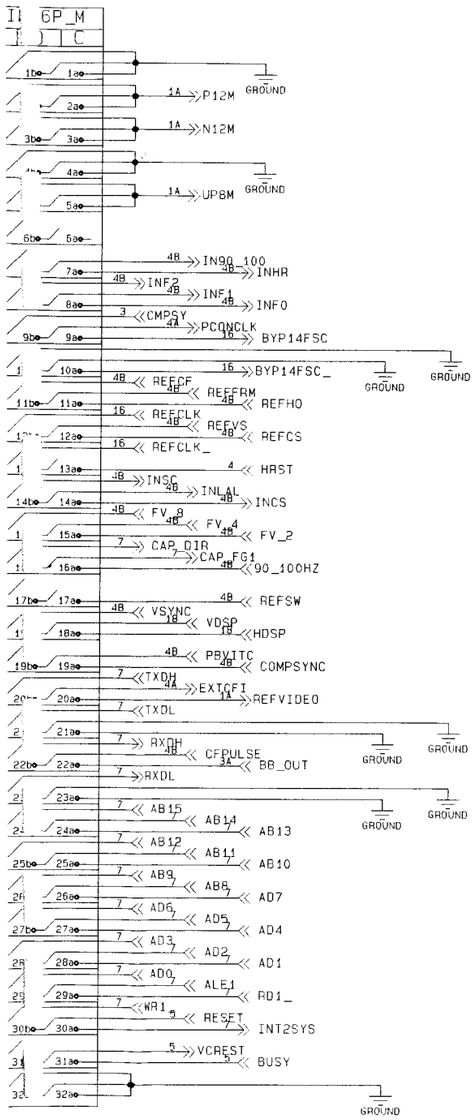
| P008 | C | L 4 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | PB FLAG | P006-2C | | | |
| 3 | PB DATA 5 | P006-3C | | | |
| 4 | PB DATA 2 | P006-4C | | | |
| 5 | PB CFST | P006-5C | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | REF FN 2 | P006-8C | | | |
| 9 | SYNC BLNK | P002-9C | | | |
| 10 | BURST FLAG | P002-10C | | | |
| 11 | AV DATA 7 | P002-11C | | | |
| 12 | AV DATA 4 | P002-12C | | | |
| 13 | AV DATA 1 | P002-13C | | | |
| 14 | AV DATA -2 | P002-14C | | | |
| 15 | DV DATA OUT 7 | P027-1 | | | |
| 16 | DV DATA OUT 7 | P027-2 | | | |
| 17 | DV DATA OUT 4 | P027-7 | | | |
| 18 | DV DATA OUT 4 | P027-8 | | | |
| 19 | DV DATA OUT 1 | P028-3 | | | |
| 20 | DV DATA OUT 1 | P028-4 | | | |
| 21 | DV DATA OUT -2 | P028-9 | | | |
| 22 | DV DATA OUT -2 | P028-10 | | | |
| 23 | BYP 11 | P004-23C | P006-23C | | |
| 24 | BYP 8 | P004-24C | P006-24C | | |
| 25 | BYP 5 | P004-25C | P006-25C | | |
| 26 | BYP 2 | P004-26C | P006-26C | | |
| 27 | GND (D) | | | | |
| 28 | +5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | -5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |




A B C D

1 2 3 4 5 6

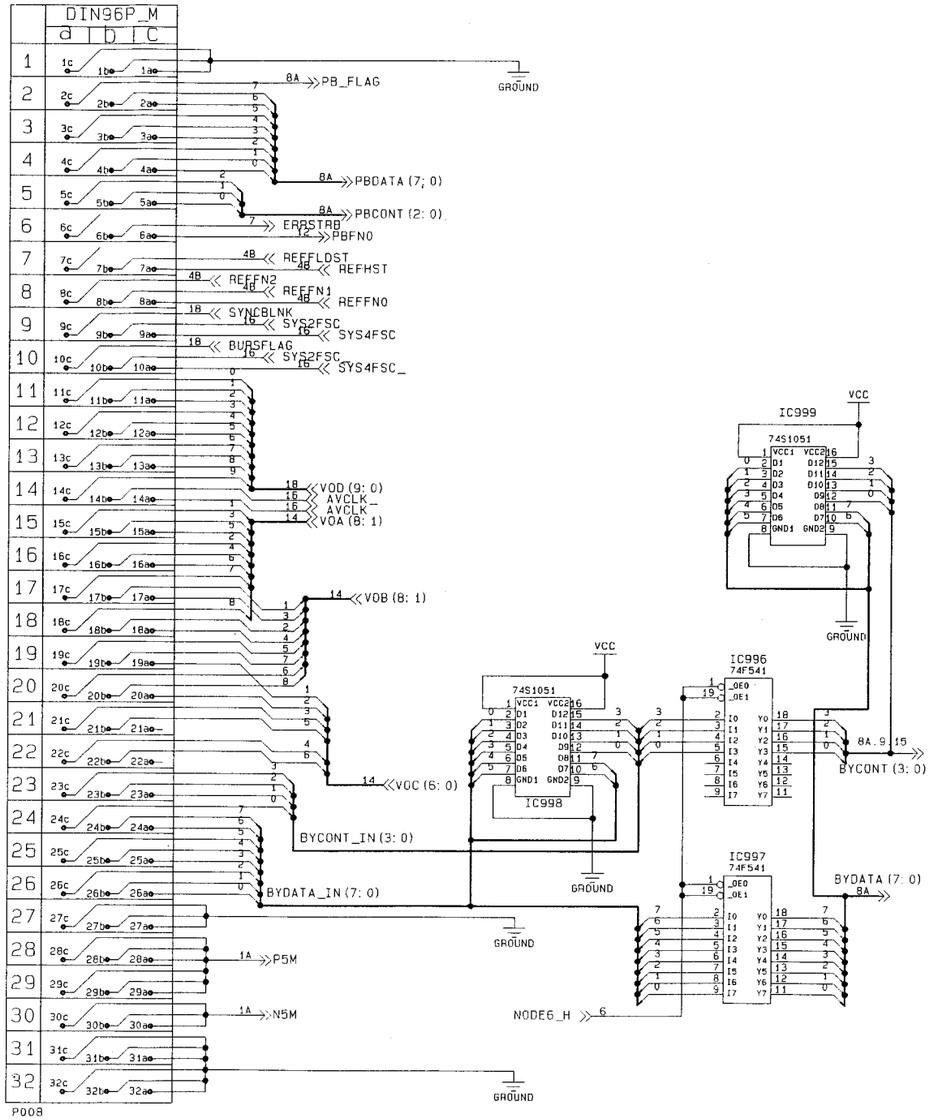
# CHEMATIC DIAGRAM (17/22)



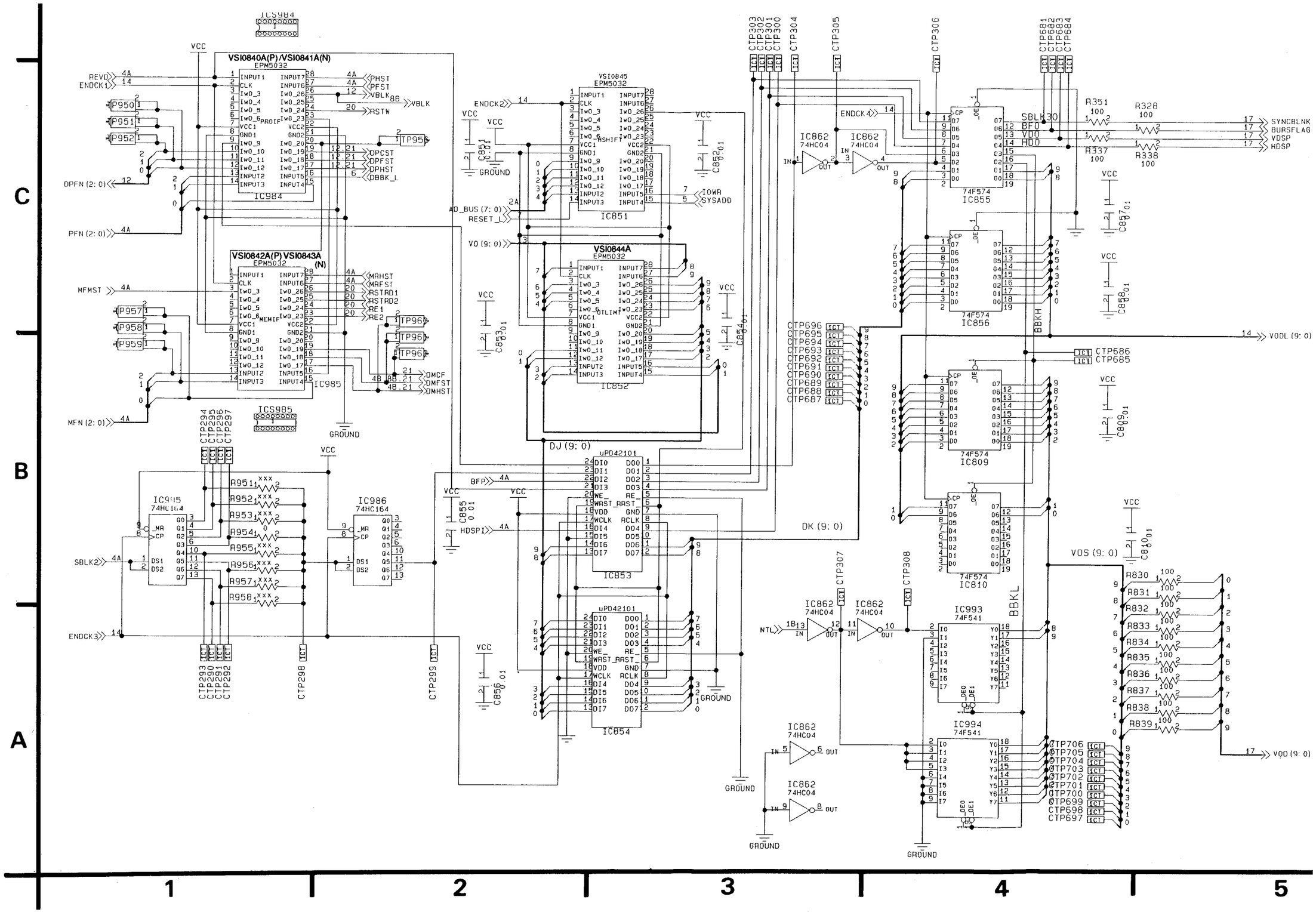

| P008 | A | FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | PB DATA 6 | P006-2A | | | |
| 3 | PB DATA 3 | P006-3A | | | |
| 4 | PB DATA 0 | P006-4A | | | |
| 5 | PB HST | P006-5A | | | |
| 6 | PB FN 0 | P006-6A | | | |
| 7 | REF HST | P006-7A | | | |
| 8 | REF FN 0 | P006-8A | | | |
| 9 | SYS 4FSC | P006-9A | | | |
| 10 | SYS 4FSC | P006-10A | | | |
| 11 | AV DATA 5 | P002-11A | | | |
| 12 | AV DATA 2 | P002-12A | | | |
| 13 | AV DATA -1 | P002-13A | | | |
| 14 | AV CLK 0 | P002-14A | | | |
| 15 | DV DATA OUT 5 | P027-5 | | | |
| 16 | DV DATA OUT 5 | P027-6 | | | |
| 17 | DV DATA OUT 2 | P028-1 | | | |
| 18 | DV DATA OUT 2 | P028-2 | | | |
| 19 | DV DATA OUT-1 | P028-7 | | | |
| 20 | DV DATA OUT-1 | P028-8 | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | BYP 9 | P004-23A | P006-23A | | |
| 24 | BYP 6 | P004-24A | P006-24A | | |
| 25 | BYP 3 | P004-25A | P006-25A | | |
| 26 | BYP 0 | P004-26A | P006-26A | | |
| 27 | GND (D) | | | | |
| 28 | +5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | -5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

| P008 | B | FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | PB DATA 7 | P006-2B | | | |
| 3 | PB DATA 4 | P006-3B | | | |
| 4 | PB DATA 1 | P006-4B | | | |
| 5 | PB FLDST | P006-5B | | | |
| 6 | ERR STRB | P006-6B | | | |
| 7 | REF FLDST | P006-7B | | | |
| 8 | REF FN1 | P006-8B | | | |
| 9 | SYS 2FSC | P006-9B | | | |
| 10 | SYS 2FSC | P006-10B | | | |
| 11 | AV DATA 6 | P002-11B | | | |
| 12 | AV DATA 3 | P002-12B | | | |
| 13 | AV DATA 0 | P002-13B | | | |
| 14 | AV CLK 0 | P002-14B | | | |
| 15 | DV DATA OUT 6 | P027-3 | | | |
| 16 | DV DATA OUT 6 | P027-4 | | | |
| 17 | DV DATA OUT 3 | P027-9 | | | |
| 18 | DV DATA OUT 3 | P027-10 | | | |
| 19 | DV DATA OUT 0 | P028-5 | | | |
| 20 | DV DATA OUT 0 | P028-6 | | | |
| 21 | DV CLK 0 | P028-11 | | | |
| 22 | DV CLK 0 | P028-12 | | | |
| 23 | BYP 10 | P004-23B | P006-23B | | |
| 24 | BYP 7 | P004-24B | P006-24B | | |
| 25 | BYP 4 | P004-25B | P006-25B | | |
| 26 | BYP 1 | P004-26B | P006-26B | | |
| 27 | GND (D) | | | | |
| 28 | +5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | -5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

| P008 | C | FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | PB FLAG | P006-2C | | | |
| 3 | PB DATA 5 | P006-3C | | | |
| 4 | PB DATA 2 | P006-4C | | | |
| 5 | PB CFST | P006-5C | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | REF FN 2 | P006-8C | | | |
| 9 | SYNC BLNK | P002-9C | | | |
| 10 | BURST FLAG | P002-10C | | | |
| 11 | AV DATA 7 | P002-11C | | | |
| 12 | AV DATA 4 | P002-12C | | | |
| 13 | AV DATA 1 | P002-13C | | | |
| 14 | AV DATA -2 | P002-14C | | | |
| 15 | DV DATA OUT 7 | P027-1 | | | |
| 16 | DV DATA OUT 7 | P027-2 | | | |
| 17 | DV DATA OUT 4 | P027-7 | | | |
| 18 | DV DATA OUT 4 | P027-8 | | | |
| 19 | DV DATA OUT 1 | P028-3 | | | |
| 20 | DV DATA OUT 1 | P028-4 | | | |
| 21 | DV DATA OUT -2 | P028-9 | | | |
| 22 | DV DATA OUT -2 | P028-10 | | | |
| 23 | BYP 11 | P004-23C | P006-23C | | |
| 24 | BYP 8 | P004-24C | P006-24C | | |
| 25 | BYP 5 | P004-25C | P006-25C | | |
| 26 | BYP 2 | P004-26C | P006-26C | | |
| 27 | GND (D) | | | | |
| 28 | +5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | -5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |



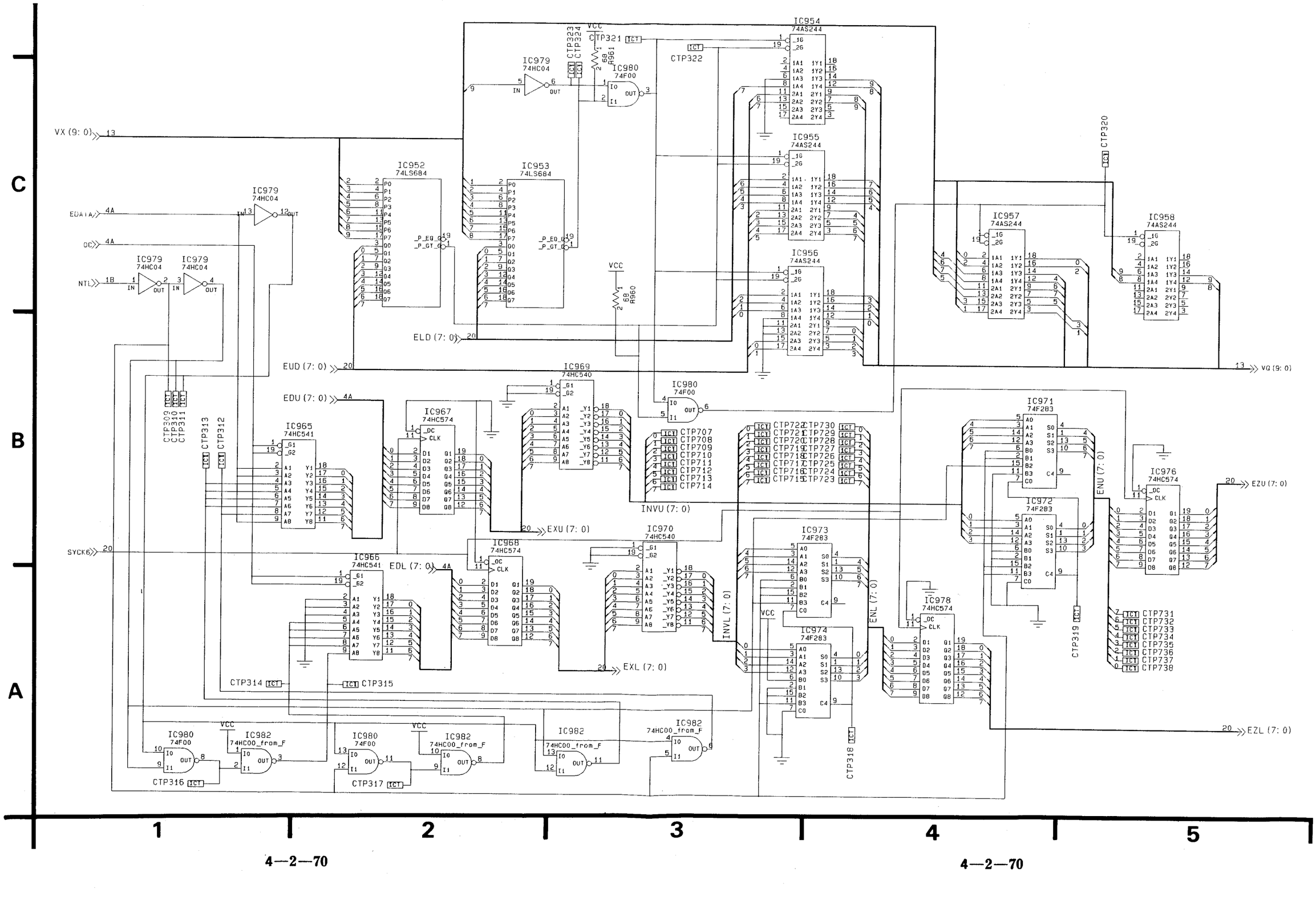
# L4 VIDEO PROCESS (ENO PROC) SCHEMATIC DIAGRAM (18/22)



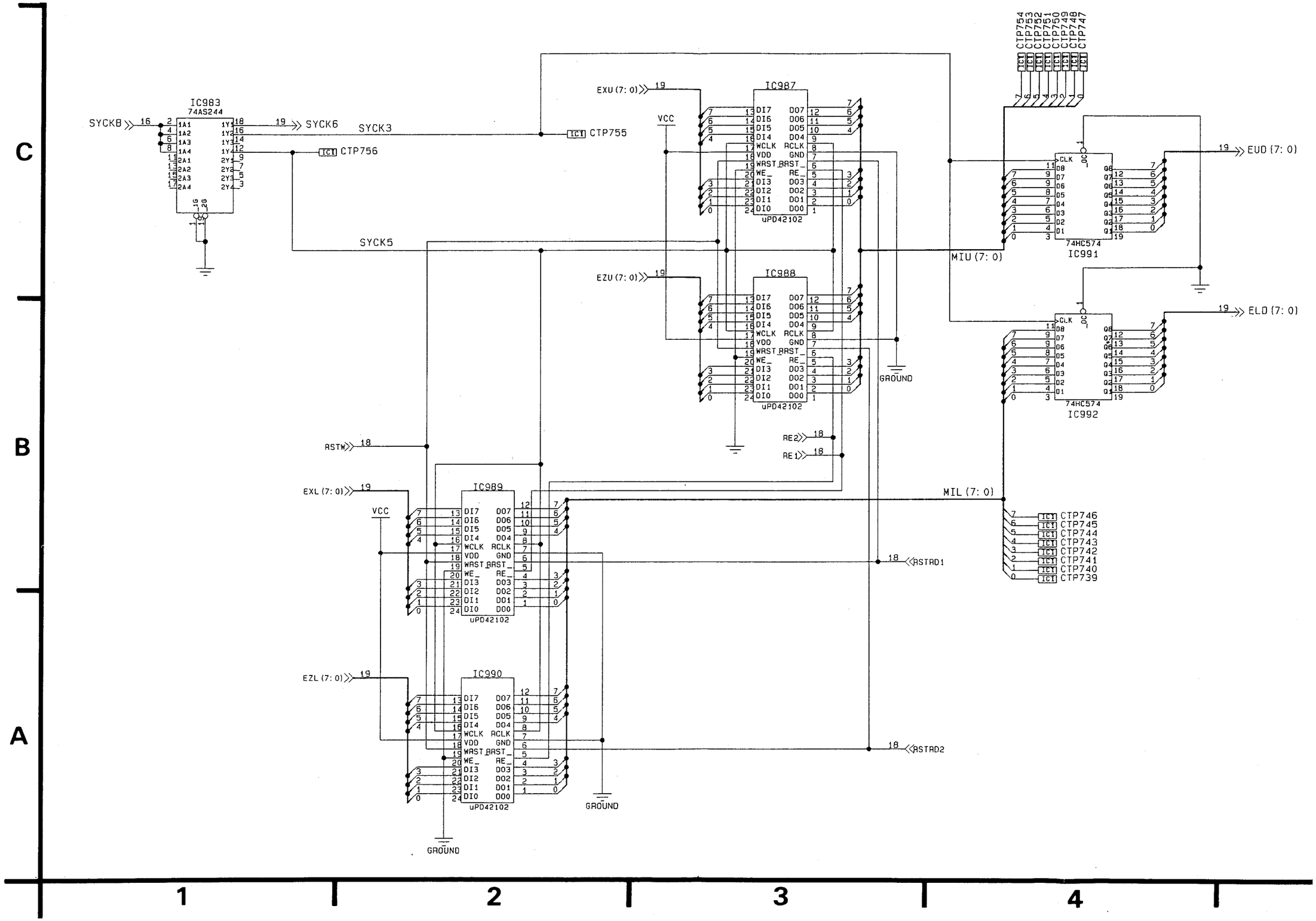

4—2—69

4—2—69

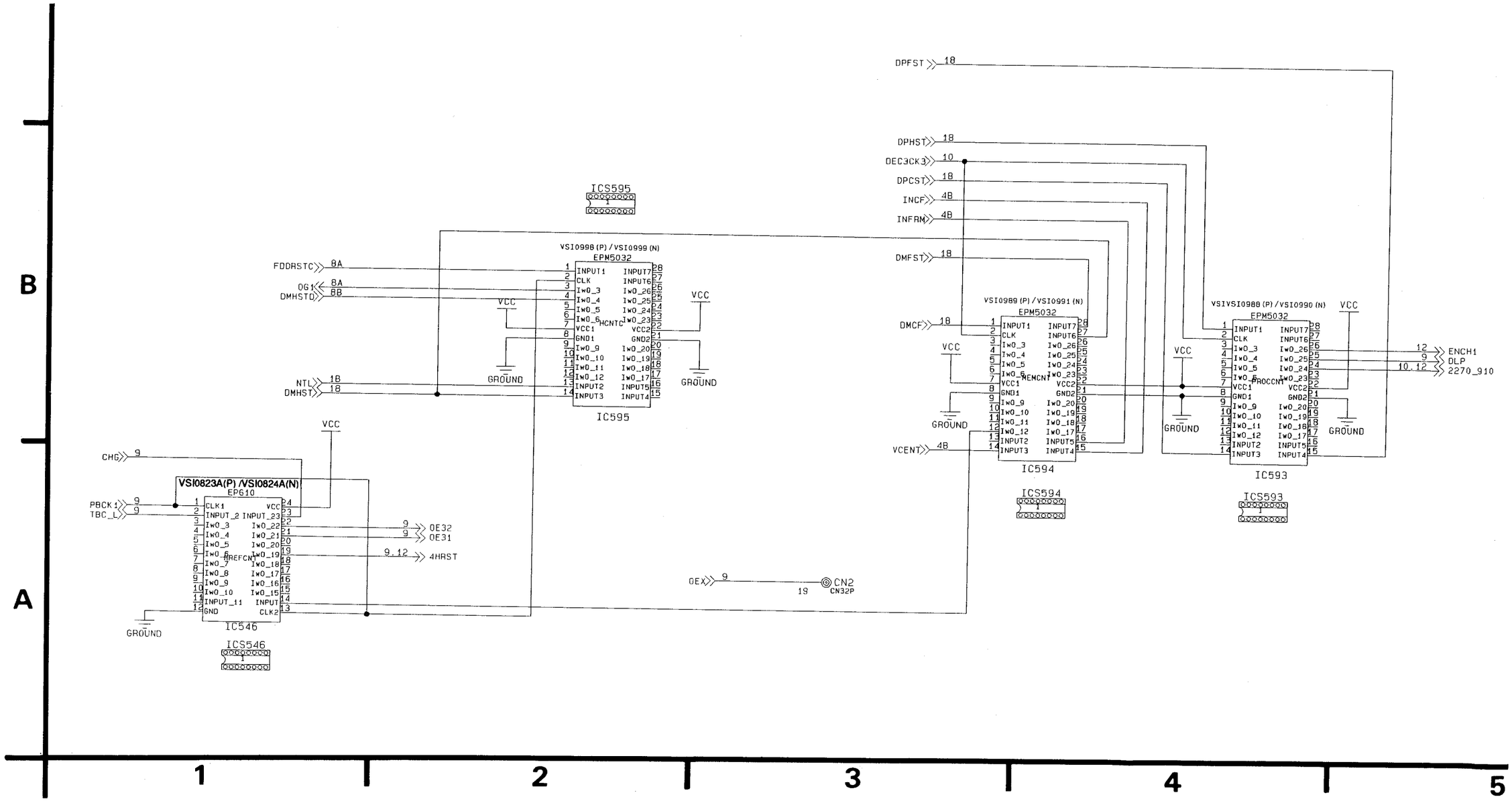
# L4 VIDEO PROCESS SCHEMATIC DIAGRAM (19/22)



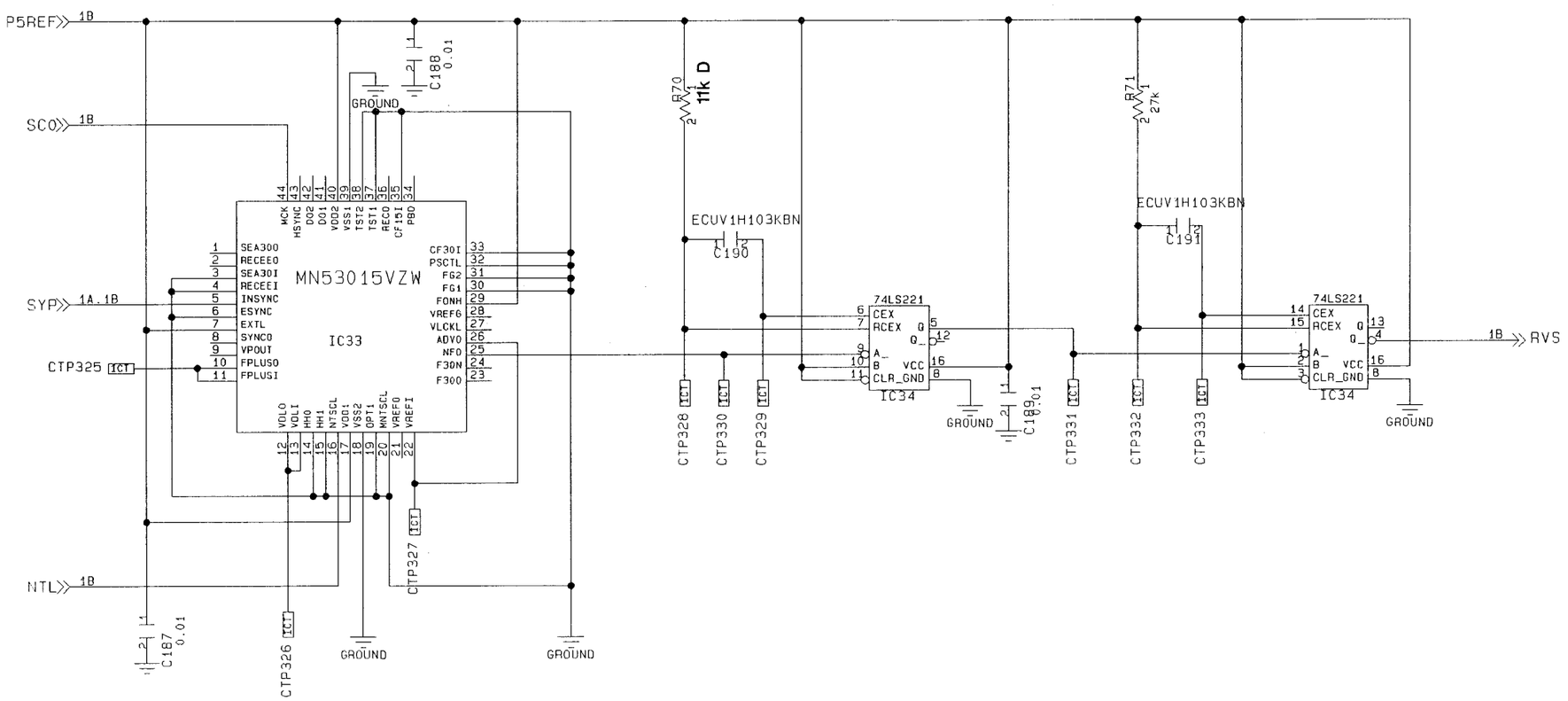
# L4 VIDEO PROCESS SCHEMATIC DIAGRAM (20/22)



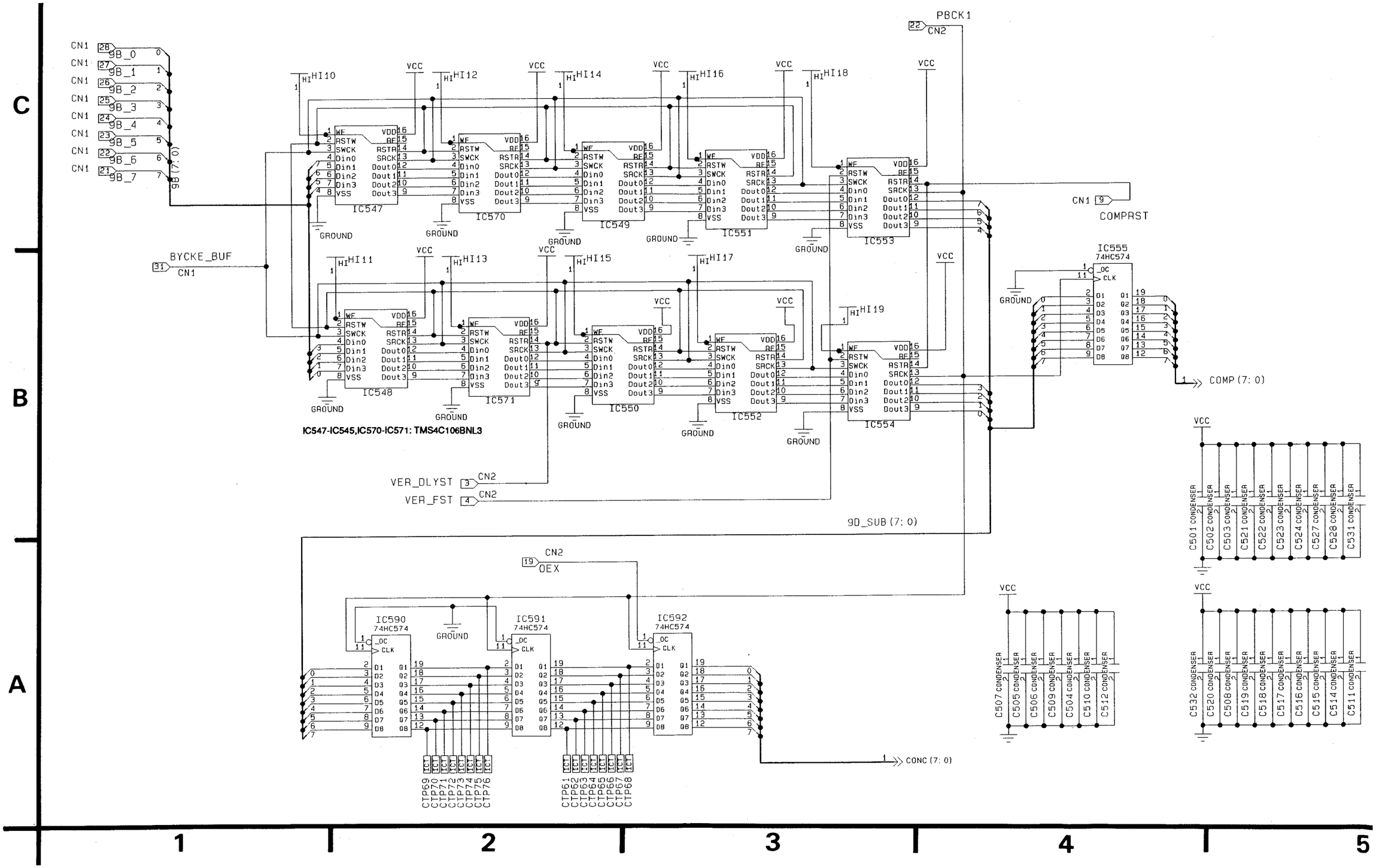
# L4 VIDEO PROCESS SCHEMATIC DIAGRAM (21/22)



# L4 VIDEO PROCESS SCHEMATIC DIAGRAM (22/22)

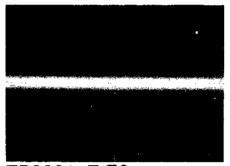


# L4 VIDEO PROCESS SUB SCHEMATIC DIAGRAM (1/2)

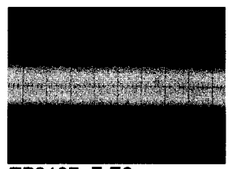


NTSC

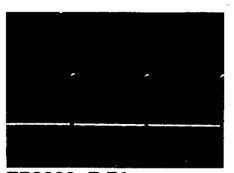
## L4 WAVEFORMS NTSC


TP8001 E-E2
(TP8002)
50mV/20µsec. div.

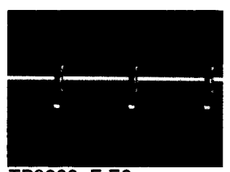
TP8008 E-E2
2V/50µsec. div.


TP8107 E-E2
(TP8108)
50mV/50µsec. div.

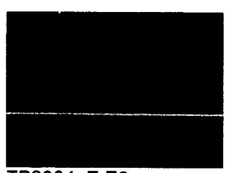
TP8304 E-E2
2V/20µsec. div.

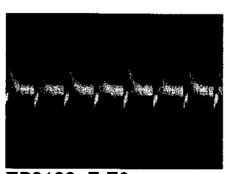

TP8003 E-E2
2V/20µsec. div.

TP8009 E-E2
50mV/20µsec. div.


TP8200 E-E2
500mV/20µsec. div.

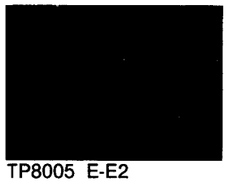
TP8305 E-E2
2V/2msec. div.

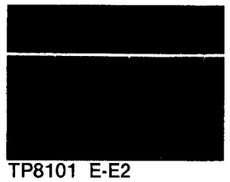

TP8004 E-E2
2V/20µsec. div.


TP8100 E-E2
50mV/50µsec. div.

TP8300 E-E2
2V/20µsec. div.

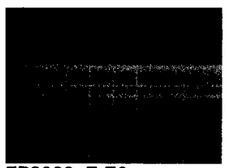
TP8306 E-E2
2V/5msec. div.


TP8005 E-E2
2V/20msec. div.


TP8101 E-E2
2V/20µsec. div.

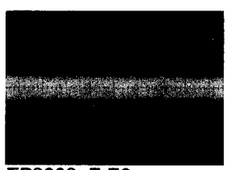
TP8302 E-E2
2V/10msec. div.

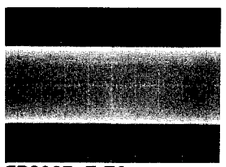
TP8307 E-E2
2V/10msec. div.

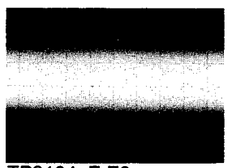

TP8006 E-E2
50mV/1msec. div.

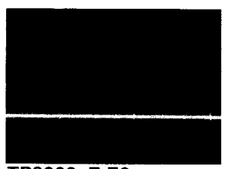
TP8102 E-E2
2V/20µsec. div.

TP8301 E-E2
2V/50µsec. div.


TP8308 E-E2
50mV/20µsec. div.


TP8007 E-E2
2V/20µsec. div.

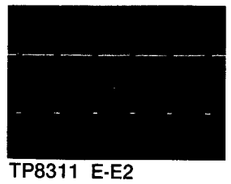

TP8104 E-E2
(TP8105, TP8106)
20mV/20µsec. div.


TP8303 E-E2
2V/20µsec. div.

TP8309 E-E2
2V/10msec. div.

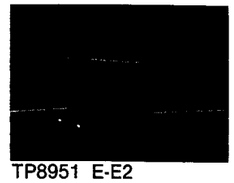


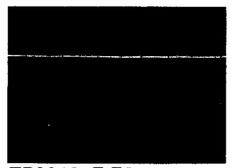
## L4 WAVEFORMS NTSC


TP8311 E-E2
2V/20µsec. div.

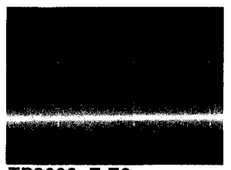
TP8501 E-E2
2V/5msec. div.

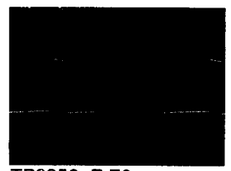
TP8601 E-E2
2V/5msec. div.

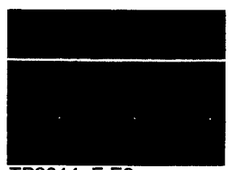

TP8951 E-E2
2V/10msec. div.

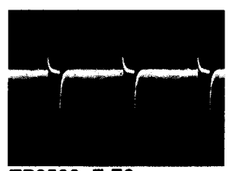

TP8312 E-E2
2V/5msec. div.

TP8502 E-E2
2V/20msec. div.

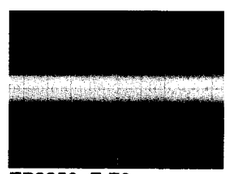

TP8602 E-E2
2V/20µsec. div.

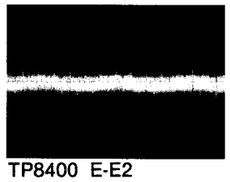

TP8952 E-E2
2V/20msec. div.

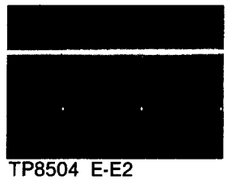

TP8314 E-E2
(TP8315)
2V/20µsec. div.

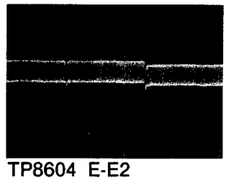

TP8503 E-E2
500mV/20µsec. div.

TP8603 E-E2
2V/20msec. div.

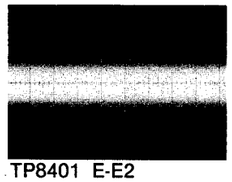

TP8956 E-E2
50mV/20µsec. div.

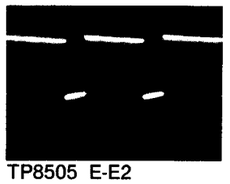

TP8400 E-E2
100mV/20µsec. div.

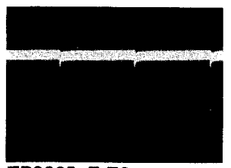

TP8504 E-E2
2V/5msec. div.


TP8604 E-E2
500mV/5msec. div.

TP8957 E-E2
2V/10msec. div.


TP8401 E-E2
100mV/20µsec. div.

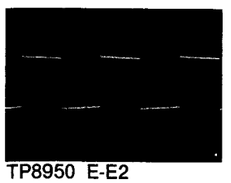

TP8505 E-E2
2V/20msec. div.


TP8605 E-E2
2V/20µsec. div.

TP8958 E-E2
2V/10msec. div.

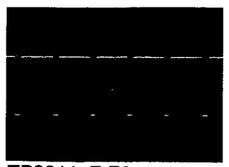
TP8500 E-E2
2V/20µsec. div.

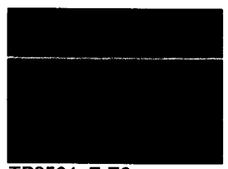
TP8600 E-E2
2V/20msec. div.


TP8950 E-E2
2V/10msec. div.

TP8959 E-E2
2V/20msec. div.

## L4 WAVEFORMS NTSC

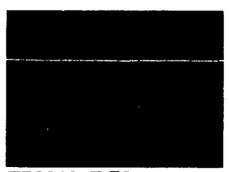

TP8311 E-E2
2V/20µsec. div.


TP8501 E-E2
2V/5msec. div.

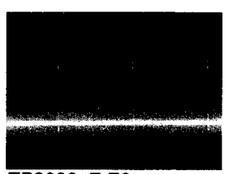
TP8601 E-E2
2V/5msec. div.

TP8951 E-E2
2V/10msec. div.

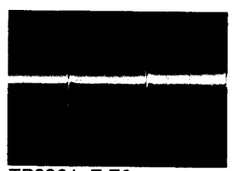
TP8960 E-E2
2V/20µsec. div.

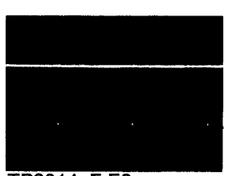

TP8312 E-E2
2V/5msec. div.

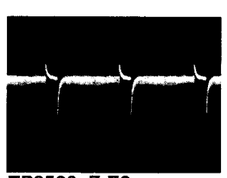
TP8502 E-E2
2V/20msec. div.

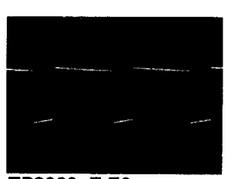

TP8602 E-E2
2V/20µsec. div.

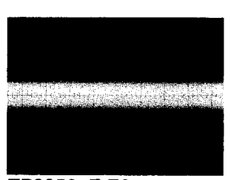
TP8952 E-E2
2V/20msec. div.

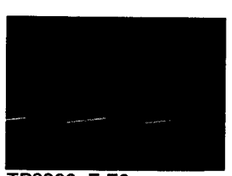

TP8961 E-E2
500mV/5msec. div.

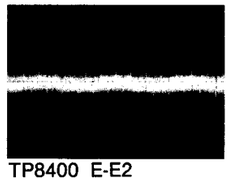

TP8314 E-E2
(TP8315)
2V/20µsec. div.

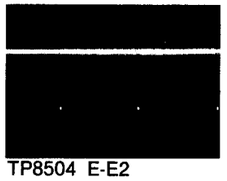

TP8503 E-E2
500mV/20µsec. div.

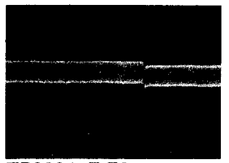

TP8603 E-E2
2V/20msec. div.


TP8956 E-E2
50mV/20µsec. div.

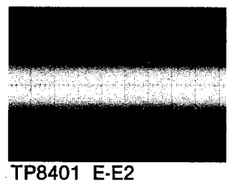

TP8962 E-E2
2V/20msec. div.

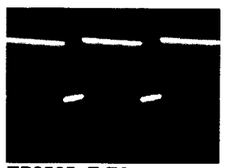

TP8400 E-E2
100mV/20µsec. div.

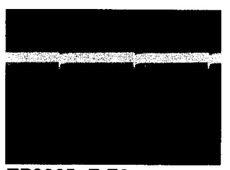

TP8504 E-E2
2V/5msec. div.


TP8604 E-E2
500mV/5msec. div.

TP8957 E-E2
2V/10msec. div.


TP8401 E-E2
100mV/20µsec. div.


TP8505 E-E2
2V/20msec. div.


TP8605 E-E2
2V/20µsec. div.

TP8958 E-E2
2V/10msec. div.

TP8500 E-E2
2V/20µsec. div.

TP8600 E-E2
2V/20msec. div.

TP8950 E-E2
2V/10msec. div.

TP8959 E-E2
2V/20msec. div.

PAL

## L4 WAVEFORMS PAL

TP8001 E-E2
20mV/20µsec. div.

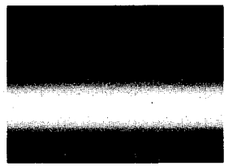
TP8007 E-E2
2V/20µsec. div.

TP8104 E-E2
20mV/20µsec. div.

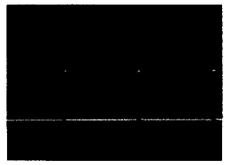
TP8303 E-E2
2V/20µsec. div.

TP8002 E-E2
100mV/10msec. div.

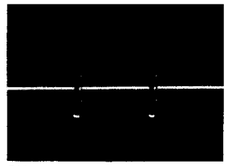
TP8008 E-E2
2V/50µsec. div.


TP8105 E-E2
(TP8106, TP8107, TP8108)
50mV/20µsec. div.

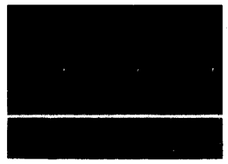
TP8304 E-E2
2V/20µsec. div.

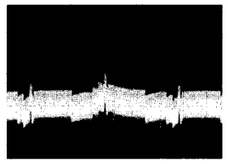

TP8003 E-E2
2V/20µsec. div.

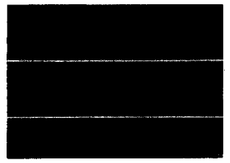
TP8009 E-E2
20mV/20µsec. div.


TP8200 E-E2
500mV/20µsec. div.

TP8305 E-E2
2V/2msec. div.

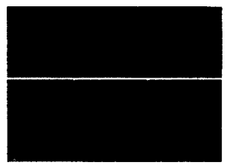

TP8004 E-E2
2V/20µsec. div.

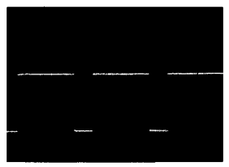

TP8100 E-E2
20mV/20µsec. div.

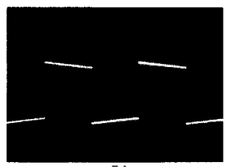

TP8300 E-E2
2V/20µsec. div.

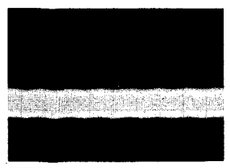
TP8306 E-E2
2V/10msec. div.

TP8005 E-E2
2V/20msec. div.


TP8101 E-E2
2V/20µsec. div.

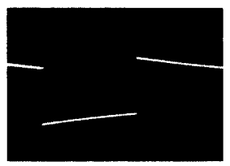

TP8301 E-E2
2V/20µsec. div.


TP8307 E-E2
2V/20msec. div.

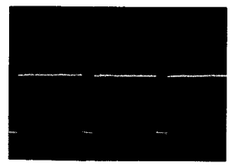

TP8006 E-E2
20mV/50µsec. div.

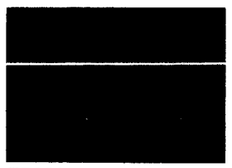
TP8102 E-E2
2V/20µsec. div.

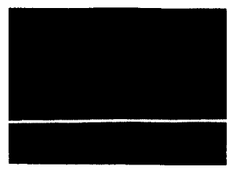
TP8302 E-E2
2V/20msec. div.

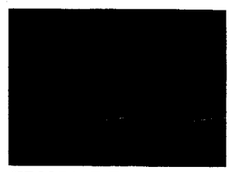

TP8308 E-E2
(TP8309)
2V/20msec. div.

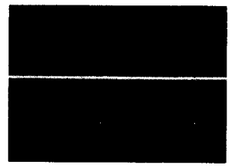
## L4 WAVEFORMS PAL

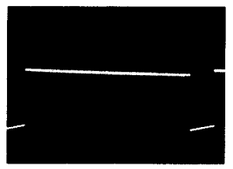

TP8311 E-E2
2V/10µsec. div.

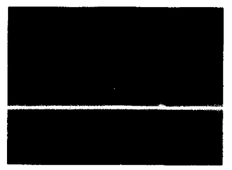

TP8501 E-E2
2V/5msec. div.

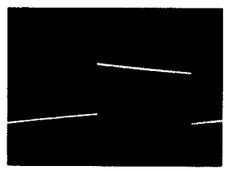

TP8601 E-E2
2V/10msec. div.

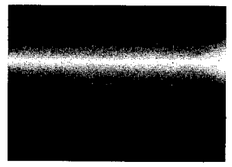

TP8951 E-E2
2V/20msec. div.

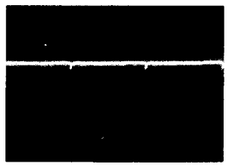

TP8312 E-E2
2V/5msec. div.


TP8502 E-E2
2V/20msec. div.

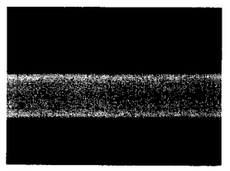

TP8602 E-E2
2V/20µsec. div.

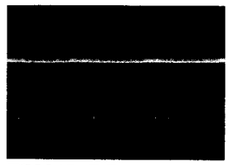

TP8952 E-E2
2V/20msec. div.

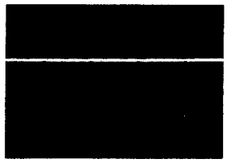

TP8314 E-E2
2V/10msec. div.


TP8503 E-E2
2V/20µsec. div.

TP8603 E-E2
2V/20msec. div.

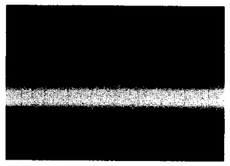

TP8956 E-E2
200mV/100µsec. div.

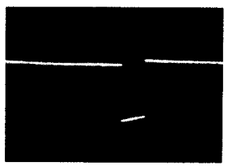

TP8315 E-E2
2V/20µsec. div.


TP8504 E-E2
2V/10msec. div.

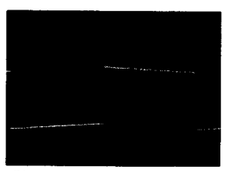
TP8604 E-E2
2V/5msec. div.

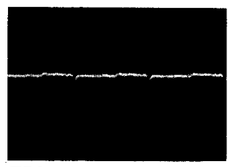
TP8957 E-E2
2V/10msec. div.

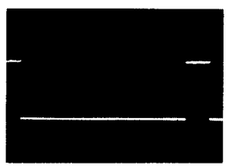

TP8400 E-E2
(TP8401)
100mV/20µsec. div.

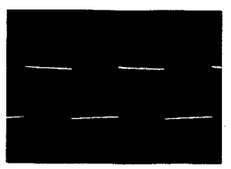

TP8505 E-E2
2V/20msec. div.

TP8605 E-E2
2V/20µsec. div.


TP8958 E-E2
2V/10msec. div.

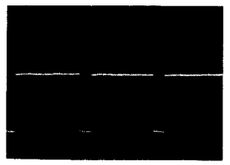

TP8500 E-E2
500mV/20µsec. div.


TP8600 E-E2
2V/20msec. div.

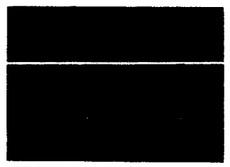

TP8950 E-E2
2V/10msec. div.

TP8959 E-E2
2V/20msec. div.

## L4 WAVEFORMS PAL

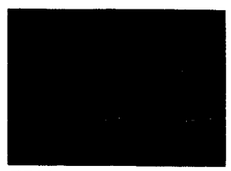


TP8311 E-E2
2V/10µsec. div.

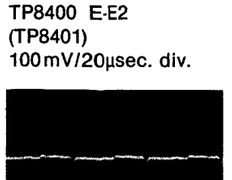


TP8501 E-E2
2V/5msec. div.

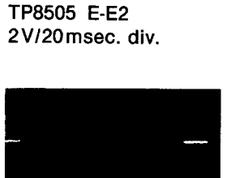
TP8601 E-E2
2V/10msec. div.



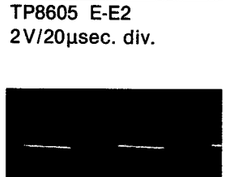
TP8951 E-E2
2V/20msec. div.



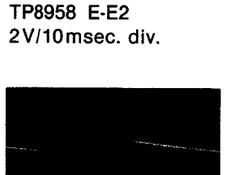
TP8312 E-E2
2V/5msec. div.



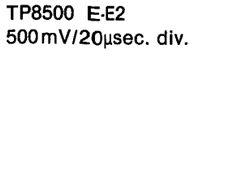
TP8502 E-E2
2V/20msec. div.



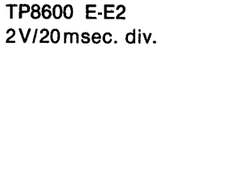
TP8602 E-E2
2V/20µsec. div.



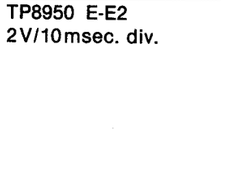
TP8952 E-E2
2V/20msec. div.



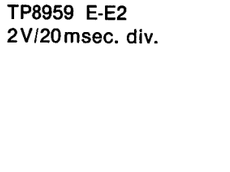
TP8314 E-E2
2V/10msec. div.



TP8503 E-E2
2V/20µsec. div.



TP8603 E-E2
2V/20msec. div.



TP8956 E-E2
200mV/100µsec. div.



TP8315 E-E2
2V/20µsec. div.



TP8504 E-E2
2V/10msec. div.



TP8604 E-E2
2V/5msec. div.



TP8957 E-E2
2V/10msec. div.



TP8400 E-E2
(TP8401)
100mV/20µsec. div.



TP8505 E-E2
2V/20msec. div.



TP8605 E-E2
2V/20µsec. div.



TP8958 E-E2
2V/10msec. div.



TP8500 E-E2
500mV/20µsec. div.



TP8600 E-E2
2V/20msec. div.



TP8950 E-E2
2V/10msec. div.

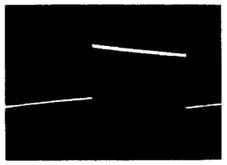


TP8959 E-E2
2V/20msec. div.

## L4 WAVEFORMS PAL

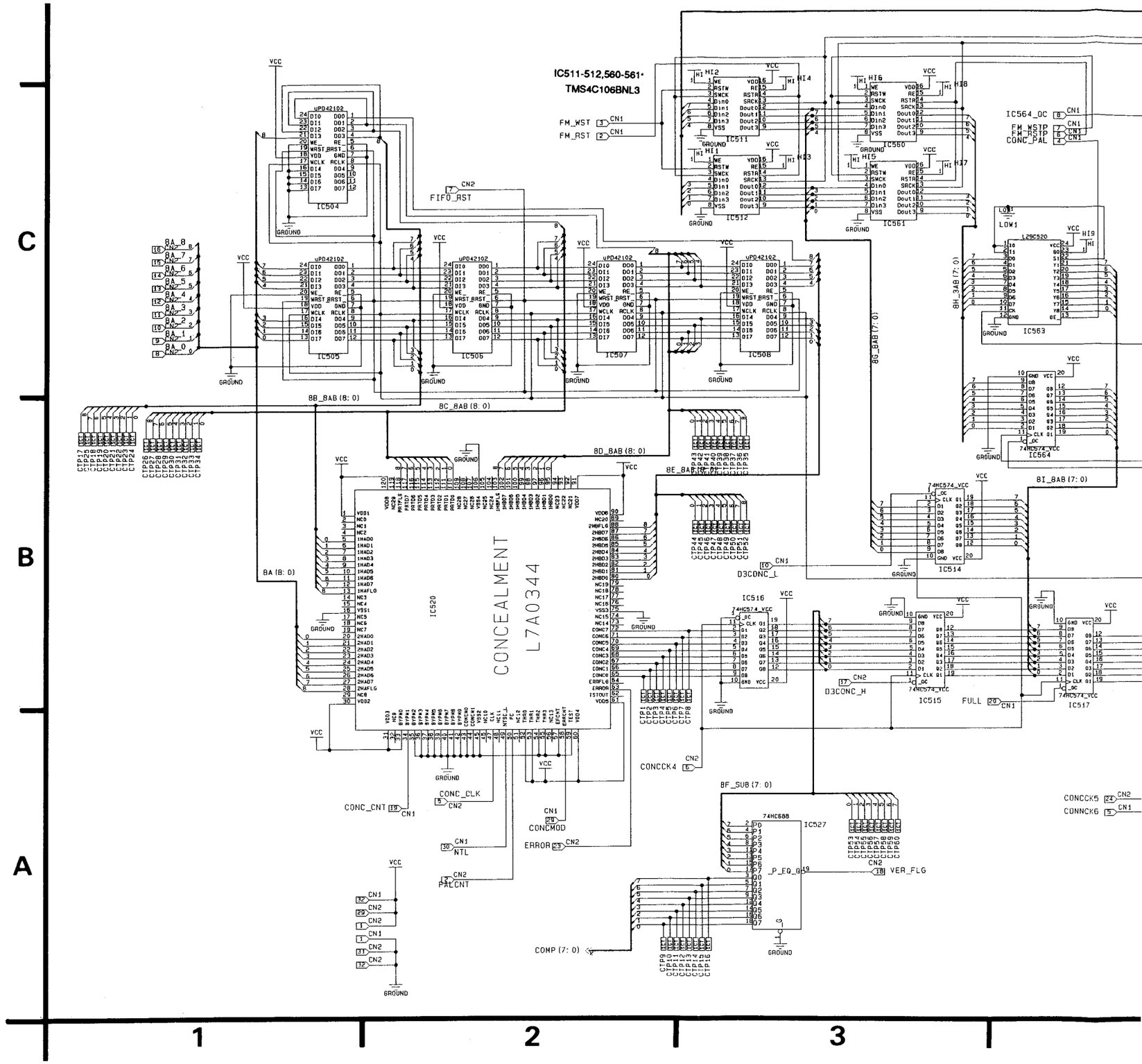
TP8960 E-E2
2V/20msec. div.

TP8961 E-E2
2V/5msec. div.

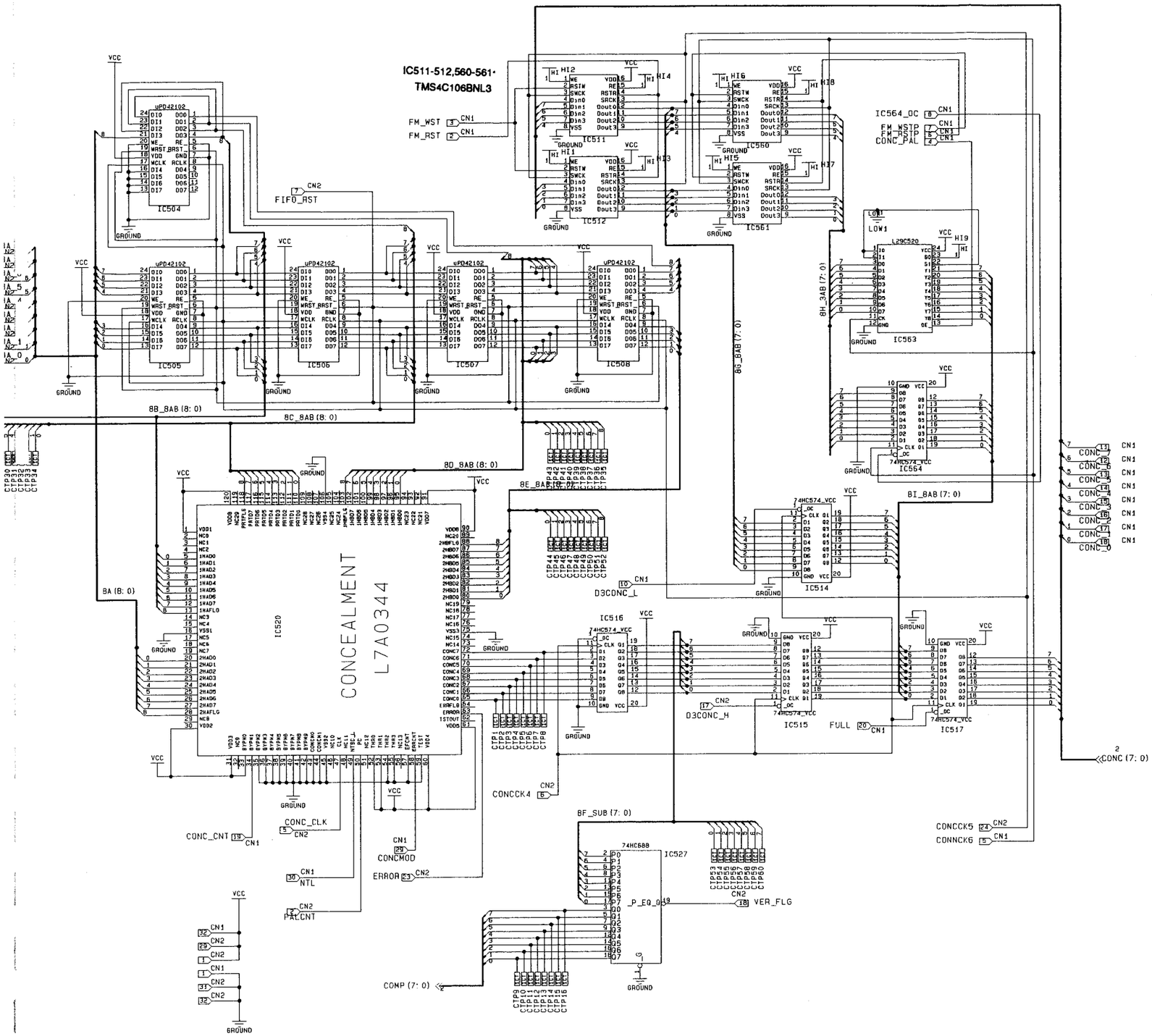


TP8962 E-E2
2V/20msec. div.

# L4 VIDEO PROCESS SUB SCHEMATIC DIAGRAM (2/2)



# OCESS SUB SCHEMATIC DIAGRAM (2/2)



# L MOTHER (P019, P024) SCHEMATIC DIAGRAM (5/7)

P024
HIROSE PCN13-96S-2.54DSA
L

| FROM / TO | | | | | A | | B | FROM / TO | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GND | | | | | GND (D) | 1 | GND (D) | | | | | GND |
| TEST_EE2 | | | P018-13 | P005-17A | TEST_EE2 | 2 | BLK SYNC | | | | | BLK_SYNC |
| ENV_DET1 | | | | P005-23A | ENV-DET CH1 | 3 | PB H SW | P005-13C | | | | PB_H_SW |
| ENV_DET0 | | | | P005-22A | ENV-DET CH0 | 4 | PB TP FRAME | P005-12C | | | | PBTP_FRM |
| SEG-VAG | | | | P005-10A | SEGM VAGUE | 5 | FV/8 | P007-15C | | | | FV/8 |
| PB-FN0 | | | | P005-10B | PB - FN0 | 6 | FV/4 | P007-15B | | | | FV/4 |
| SEG-1 | | | | P005-9B | SEG - 1 | 7 | FV/2 | P007-15A | P004-19B | | | FV/2 |
| SEG-0 | | | | P005-9A | SEGU - 0 | 8 | 90/100HZ | P007-16A | | | | 90/100HZ |
| AV_RESET | P001-30B | P003-30B | P005-30B | P007-30B | AV RESET | 9 | AU DATA IN 7 | P003-17C | P006-13B | | | AUDAIN7 |
| AV_BUSY | | | | P007-31A | AV BUSY | 10 | AU DATA IN 6 | P003-17B | P006-13A | | | AUDAIN6 |
| AV_WR | P001-30C | P003-30C | P005-30C | P007-30C | AV WR | 11 | AU DATA IN 5 | P003-17A | P006-12C | | | AUDAIN5 |
| AV_RD | P001-29A | P003-29A | P005-29A | P007-29A | AV RD | 12 | AU DATA IN 4 | P003-18C | P006-12B | | | AUDAIN4 |
| AVSYSINT | | | | P007-30A | AV SYS INT | 13 | AU DATA IN 3 | P003-18B | P006-12A | | | AUDAIN3 |
| AVAB_15 | P001-24C | P003-24C | P005-24C | P007-24C | AV AB 15 | 14 | AU DATA IN 2 | P003-18A | P006-11C | | | AUDAIN2 |
| AVAB_14 | P001-24B | P003-24B | P005-24B | P007-24B | AV AB 14 | 15 | AU DATA IN 1 | P003-19C | P006-11B | | | AUDAIN1 |
| AVAB_13 | P001-24A | P003-24A | P005-24A | P007-24A | AV AB 13 | 16 | AU DATA IN 0 | P003-19B | P006-11A | | | AUDAIN0 |
| AVAB_12 | P001-25C | P003-25C | P005-25C | P007-25C | AV AB 12 | 17 | FILD | P005-8A | | | | FILD |
| AVAB_11 | P001-25B | P003-25B | P005-25B | P007-25B | AV AB 11 | 18 | PB5F | P005-7C | P003-7C | | | PB_5F |
| AVAB_10 | P001-25A | P003-25A | P005-25A | P007-25A | AV AB 10 | 19 | VALIDF | P005-7A | | | | VALID_F |
| AVAB_9 | P001-26C | P003-26C | P005-26C | P007-26C | AV AB 9 | 20 | MUTE 34 | P005-8C | | | | MUTE_34 |
| AVAB_8 | P001-26B | P003-26B | P005-26B | P007-26B | AV AB 8 | 21 | MUTE 12 | P005-8B | | | | MUTE_12 |
| AV_ALE | P001-29B | P003-29B | P005-29B | P007-29B | AV ALE | 22 | ST FLG | P006-16B | | | | ST_FLG |
| AVAD_7 | P001-26A | P003-26A | P005-26A | P007-26A | AV AD 7 | 23 | STD | P006-16A | | | | ST_0 |
| AVAD_6 | P001-27C | P003-27C | P005-27C | P007-27C | AV AD 6 | 24 | PBD 34 | P006-15B | | | | PBD_34 |
| AVAD_5 | P001-27B | P003-27B | P005-27B | P007-27B | AV AD 5 | 25 | PBD 12 | P006-15A | | | | PBD_12 |
| AVAD_4 | P001-27A | P003-27A | P005-27A | P007-27A | AV AD 4 | 26 | DSD L | P002-3B | | | | DSD_L |
| AVAD_3 | P001-28C | P003-28C | P005-28C | P007-28C | AV AD 3 | 27 | DSD 3 | P002-2C | | | | DSD_3 |
| AVAD_2 | P001-28B | P003-28B | P005-28B | P007-28B | AV AD 2 | 28 | DSD 1 | P002-2A | | | | DSD_1 |
| AVAD_1 | P001-28A | P003-28A | P005-28A | P007-28A | AV AD 1 | 29 | ASD 3 | P002-4C | | | | ASD_3 |
| AVAD_0 | P001-29C | P003-29C | P005-29C | P007-29C | AV AD 0 | 30 | ASD 1 | P002-4A | | | | ASD_1 |

P019
HIROSE PCN13-96S-2.54DSA
L

| FROM / TO | | | | | A | | B | FROM / TO | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | | | | | GND (D) | 1 | GND (D) | | | | | GND |
| * | | | | | | 2 | | | | | | * |
| * | | | | | | 3 | AV DATA IN $\overline{7}$ | P004-11C | | | | -AVDAIN7 |
| * | | | | | | 4 | AV DATA IN 7 | P004-10C | | | | AVDAIN7 |
| VCPRESET | | | | P007-31B | VCP RESET | 5 | AV DATA IN $\overline{6}$ | P004-11B | | | | -AVDAIN6 |
| REC_VS | | | | P004-7B | REC V SYNC | 6 | AV DATA IN 6 | P004-10B | | | | AVDAIN6 |
| R_COM_SY | | | | P004-6B | REC COMP SYNC | 7 | AV DATA IN $\overline{5}$ | P004-11A | | | | -AVDAIN5 |
| VITCGATE | | | | P004-7C | VITC GATE | 8 | AV DATA IN 5 | P004-10A | | | | AVDAIN5 |
| REC_VITC | | | | P004-6C | REC VITC | 9 | AV DATA IN $\overline{4}$ | P004-13C | | | | -AVDAIN4 |
| REC_CF | | | | P004-8C | REC CF | 10 | AV DATA IN 4 | P004-12C | | | | AVDAIN4 |
| CHAR_GA | | | | P002-20C | CHAR GATE | 11 | AV DATA IN $\overline{3}$ | P004-13B | | | | -AVDAIN3 |
| CHAR_SIG | | | | P002-20B | CHAR SIG | 12 | AV DATA IN 3 | P004-12B | | | | AVDAIN3 |
| REC_H_SW | | | | P004-8B | REC H SW | 13 | AV DATA IN $\overline{2}$ | P004-13A | | | | -AVDAIN2 |
| V_SYNC | | | | P007-18C | PB V SYNC | 14 | AV DATA IN 2 | P004-12A | | | | AVDAIN2 |
| COMP_SY | | | | P007-19A | PB COMP SYNC | 15 | AV DATA IN $\overline{1}$ | P004-15C | | | | -AVDAIN1 |
| PB_VITC | | | | P007-19B | PB VITC | 16 | AV DATA IN 1 | P004-14C | | | | AVDAIN1 |
| SPI_VD | | | | P007-18B | SPI VD | 17 | AV DATA IN $\overline{0}$ | P004-15B | | | | -AVDAIN0 |
| SPI_HD | | | | P007-18A | SPI HD | 18 | AV DATA IN 0 | P004-14B | | | | AVDAIN0 |
| CAP_FG1 | | | | P007-16B | CAP FG1 | 19 | AV $\overline{\text{CLK I}}$ | P004-15A | | | | -AV_CLKI |
| CAP_DIR | | | | P007-16C | CAP DIR | 20 | AV CLK I | P004-14A | | | | AV_CLKI |
| FSA | | | | P003-13B | FSA | 21 | AV $\overline{\text{HD}}$ | P004-19A | | | | -AV_HD |
| FSD | | | | P003-23A | FSD | 22 | AV HD | P004-18A | | | | AV_HD |
| ST3 | | | | P003-31C | ST3 | 23 | AV CF | P004-17C | | | | AV_CF |
| ST2 | | | | P003-31B | ST2 | 24 | AV FRM | P004-17B | | | | AV_FRM |
| ST1 | | | | P003-31A | ST1 | 25 | AV $\overline{\text{LALT}}$ | P004-16C | | | | AV_LALT |
| ST0 | | | | P003-30A | ST0 | 26 | AV $\overline{\text{SC}}$ | P004-17A | | | | -AV_SC |
| WCK | | | P001-23C | P003-21C | WCK | 27 | AV SC | P004-16A | | | | AV_SC |
| +BCK | | | P001-23B | P003-23B | BCK | 28 | AV $\overline{\text{CS}}$ | P004-9A | | | | -AV_CS |
| FS128 | | | | P003-22C | FS128 | 29 | AV CS | P004-8A | | | | AV_CS |
| PB_RST | | | P005-5C | P003-5C | PB RST | 30 | AV VS | P004-16B | | | | AV_VS |



# L MOTHER (P009, P010, P012, P014, P015,

| P009 | | FROM / TO |
|---|---|---|
| 1 | GND (A) | |
| 2 | +12V (A) | |
| 3 | -12V (A) | |
| 4 | GND (A) | |
| 5 | +8V (un) | |
| 6 | -8V (un) | |
| 7 | +15V (un) | |
| 8 | -15V (un) | |

| P010 | | FROM / TO |
|---|---|---|
| 1 | CH1 LINE OUT | P001-15A |
| 2 | CH1 LINE OUT GND | P001-16A |
| 3 | CH2 LINE OUT | P001-15B |
| 4 | CH2 LINE OUT GND | P001-16B |
| 5 | CH3 LINE OUT | P001-15C |
| 6 | CH3 LINE OUT GND | P001-16C |
| 7 | CH4 LINE OUT | P001-17A |
| 8 | CH4 LINE OUT GND | P001-18A |
| 9 | MONI L OUT | P001-17B |
| 10 | MONI L OUT GND | P001-18B |
| 11 | MONI R OUT | P001-17C |
| 12 | MONI R OUT GND | P001-18C |

| P012 | | FROM / TO |
|---|---|---|
| 1 | REC INPUT VIDEO | P002-16A |
| 2 | REC INPUT VIDEO GND | P002-17A |
| 3 | RF WFM | P002-16B |
| 4 | RF WFM GND | P002-17B |
| 5 | WF CTL | P002-16C |
| 6 | WF CTL GND | P002-17C |
| 7 | 4fsc CLK | P004-6A |
| 8 | 4fsc CLK GND | P004-7A |

| P014 | | FROM / TO |
|---|---|---|
| 1 | VIDEO 1 OUT | P002-18A |
| 2 | VIDEO 1 OUT GND | P002-19A |
| 3 | VIDEO 2 OUT | P002-18B |
| 4 | VIDEO 2 OUT GND | P002-19B |
| 5 | VIDEO 3 OUT | P002-18C |
| 6 | VIDEO 3 OUT GND | P002-19C |
| 7 | WFM OUT | P002-20A |
| 8 | WFM OUT GND | P002-21A |

| P015 | | FROM / TO |
|---|---|---|
| 1 | CH1 LINE IN H | P001-10C |
| 2 | CH1 LINE IN C | P001-10B |
| 3 | CH1 LINE IN GND | P001-10A |
| 4 | CH2 LINE IN H | P001-11C |
| 5 | CH2 LINE IN C | P001-11B |
| 6 | CH2 LINE IN GND | P001-11A |
| 7 | CH3 LINE IN H | P001-12C |
| 8 | CH3 LINE IN C | P001-12B |
| 9 | CH3 LINE IN GND | P001-12A |
| 10 | CH4 LINE IN H | P001-13C |
| 11 | CH4 LINE IN C | P001-13B |
| 12 | CH4 LINE IN GND | P001-13A |

# L MOTHER (P009, P010, P012, P014, P015, P017, P018, P021, P022) SCHEMATIC DIAGRAM (6/7)

| | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| | | | | | | GND |
| | | | | | | BLK_SYNC |
| | | | | | | PB_H_SW |
| | | | | | | PBTP_FRM |
| | | | | | | FV/8 |
| | | | | | | FV/4 |
| P004-19B | | | | | | FV/2 |
| | | | | | | 90/100HZ |
| )06-13B | | | | | | AUDAIN7 |
| )06-13A | | | | | | AUDAIN6 |
| P006-12C | | | | | | AUDAIN5 |
| P006-12B | | | | | | AUDAIN4 |
| )6-12A | | | | | | AUDAIN3 |
| )6-11C | | | | | | AUDAIN2 |
| P006-11B | | | | | | AUDAIN1 |
| P006-11A | | | | | | AUDAIN0 |
| | | | | | | FILD |
| )3-7C | | | | | | PB_5F |
| | | | | | | VALID_F |
| | | | | | | MUTE_34 |
| | | | | | | MUTE_12 |
| | | | | | | ST_FLG |
| | | | | | | ST_0 |
| | | | | | | PBD_34 |
| | | | | | | PBD_12 |
| | | | | | | DSD_L |
| | | | | | | DSD_3 |
| | | | | | | DSD_1 |
| | | | | | | ASD_3 |
| | | | | | | ASD_1 |

| | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| | | | | | | GND |
| | | | | | | x |
| | | | | | | -AVDAIN7 |
| | | | | | | AVDAIN7 |
| | | | | | | -AVDAIN6 |
| | | | | | | AVDAIN6 |
| | | | | | | -AVDAIN5 |
| | | | | | | AVDAIN5 |
| | | | | | | -AVDAIN4 |
| | | | | | | AVDAIN4 |
| | | | | | | -AVDAIN3 |
| | | | | | | AVDAIN3 |
| | | | | | | -AVDAIN2 |
| | | | | | | AVDAIN2 |
| | | | | | | -AVDAIN1 |
| | | | | | | AVDAIN1 |
| | | | | | | -AVDAIN0 |
| | | | | | | AVDAIN0 |
| | | | | | | -AV_CLKI |
| | | | | | | AV_CLKI |
| | | | | | | -AV_HO |
| | | | | | | AV_HO |
| | | | | | | AV_CF |
| | | | | | | AV_FRM |
| | | | | | | AV_LALT |
| | | | | | | -AV_SC |
| | | | | | | AV_SC |
| | | | | | | -AV_CS |
| | | | | | | AV_CS |
| | | | | | | AV_VS |

| P009 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | GND (A) | | | | | GND |
| 2 | +12V (A) | | | | | +12V (A) |
| 3 | -12V (A) | | | | | -12V (A) |
| 4 | GND (A) | | | | | GND |
| 5 | +8V (un) | | | | | +8V (UN) |
| 6 | -8V (un) | | | | | -8V (UN) |
| 7 | +15V (un) | | | | | +15V (UN) |
| 8 | -15V (un) | | | | | -15V (UN) |

| P010 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | CH1 LINE OUT | P001-15A | | | | CH1_OUT |
| 2 | CH1 LINE OUT GND | P001-16A | | | | CH1OUT_G |
| 3 | CH2 LINE OUT | P001-15B | | | | CH2_OUT |
| 4 | CH2 LINE OUT GND | P001-16B | | | | CH2OUT_G |
| 5 | CH3 LINE OUT | P001-15C | | | | CH3_OUT |
| 6 | CH3 LINE OUT GND | P001-16C | | | | CH3OUT_G |
| 7 | CH4 LINE OUT | P001-17A | | | | CH4_OUT |
| 8 | CH4 LINE OUT GND | P001-18A | | | | CH4OUT_G |
| 9 | MONI L OUT | P001-17B | | | | MONI_L_O |
| 10 | MONI L OUT GND | P001-18B | | | | MONI_L_G |
| 11 | MONI R OUT | P001-17C | | | | MONI_R_O |
| 12 | MONI R OUT GND | P001-18C | | | | MONI_R_G |

| P012 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | REC INPUT VIDEO | P002-15A | | | | REC_INPU |
| 2 | REC INPUT VIDEO GND | P002-17A | | | | REC_V_G |
| 3 | RF WFM | P002-16B | | | | RF_WFM |
| 4 | RF WFM GND | P002-17B | | | | RF_WFM_G |
| 5 | WF CTL | P002-16C | | | | WF_CTL |
| 6 | WF CTL GND | P002-17C | | | | WF_CTL_G |
| 7 | 4fsc CLK | P004-6A | | | | 4FSC |
| 8 | 4fsc CLK GND | P004-7A | | | | 4FSC_G |

| P014 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | VIDEO 1 OUT | P002-18A | | | | VIDEO1_O |
| 2 | VIDEO 1 OUT GND | P002-19A | | | | VIDEO1_G |
| 3 | VIDEO 2 OUT | P002-18B | | | | VIDEO2_O |
| 4 | VIDEO 2 OUT GND | P002-19B | | | | VIDEO2_G |
| 5 | VIDEO 3 OUT | P002-18C | | | | VIDEO3_O |
| 6 | VIDEO 3 OUT GND | P002-19C | | | | VIDEO3_G |
| 7 | WFM OUT | P002-20A | | | | WFM_OUT |
| 8 | WFM OUT GND | P002-21A | | | | WFM_GND |

| P015 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | CH1 LINE IN H | P001-10C | | | | CH1_IN_H |
| 2 | CH1 LINE IN C | P001-10B | | | | CH1_IN_C |
| 3 | CH1 LINE IN GND | P001-10A | | | | CH1_IN_G |
| 4 | CH2 LINE IN H | P001-11C | | | | CH2_IN_H |
| 5 | CH2 LINE IN C | P001-11B | | | | CH2_IN_C |
| 6 | CH2 LINE IN GND | P001-11A | | | | CH2_IN_G |
| 7 | CH3 LINE IN H | P001-12C | | | | CH3_IN_H |
| 8 | CH3 LINE IN C | P001-12B | | | | CH3_IN_C |
| 9 | CH3 LINE IN GND | P001-12A | | | | CH3_IN_G |
| 10 | CH4 LINE IN H | P001-13C | | | | CH4_IN_H |
| 11 | CH4 LINE IN C | P001-13B | | | | CH4_IN_C |
| 12 | CH4 LINE IN GND | P001-13A | | | | CH4_IN_G |

| P017 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | DV DATA IN 7 | P004-2C | | | | DVDAIN7 |
| 2 | DV DATA IN 6 | P004-2B | | | | DVDAIN6 |
| 3 | DV DATA IN 5 | P004-2A | | | | DVDAIN5 |
| 4 | DV DATA IN 4 | P004-3C | | | | DVDAIN4 |
| 5 | DV DATA IN 3 | P004-3B | | | | DVDAIN3 |
| 6 | DV DATA IN 2 | P004-3A | | | | DVDAIN2 |
| 7 | DV DATA IN 1 | P004-4C | | | | DVDAIN1 |
| 8 | DV DATA IN 0 | P004-4B | | | | DVDAIN0 |
| 9 | DV DATA IN -1 | P004-4A | | | | DVDAIN-1 |
| 10 | | | | | | x |
| 11 | DV CLK I | P004-5A | | | | DV_CLKI |
| 12 | DV CLK I | P004-5B | | | | -DV_CLKI |
| 13 | +5V (D) | | | | | +5V (D1) |
| 14 | GND (D) | | | | | GND |
| 15 | -5V (D) | | | | | -5V (D) |

| P018 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | CH0 REC | P004-18C | | | | CH0_REC |
| 2 | CH1 REC | P004-19C | | | | CH1_REC |
| 3 | CH0 REC D | P004-20A | | | | CH0REC_D |
| 4 | CH0 REC D | P004-21A | | | | -CH0_R_D |
| 5 | CH0 REC D GND | P004-22A | | | | CH0_RECG |
| 6 | CH1 REC D | P004-20B | | | | CH1_RECD |
| 7 | CH1 REC D | P004-21B | | | | -CH1_R_D |
| 8 | CH1 REC GND | P004-22B | | | | CH1_RECG |
| 9 | REC CLK | P004-20C | | | | REC_CLK |
| 10 | REC CLK | P004-21C | | | | -REC_CLK |
| 11 | REC CLK GND | P004-22C | | | | REC_CLKG |
| 12 | FRY ERASE | P004-18B | | | | FRYERASE |
| 13 | TEST EE2 | P005-17A | P024-2A | | | TEST_EE2 |

| P021 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | PB DATA CH0 | P005-18A | | | | +P_DATA0 |
| 2 | PB DATA CH0 | P005-18B | | | | -P_DATA0 |
| 3 | PB DATA CH0 GND | P005-18C | | | | P_DATA0G |
| 4 | PB CLOCK CH0 | P005-19A | | | | +P_CLOK0 |
| 5 | PB CLOCK CH0 | P005-19B | | | | -P_CLOK0 |
| 6 | PB CLOCK CH0 GND | P005-19C | | | | P_CLOK0G |
| 7 | PB DATA CH1 | P005-20A | | | | +P_DATA1 |
| 8 | PB DATA CH1 | P005-20B | | | | -P_DATA1 |
| 9 | PB DATA CH1 GND | P005-20C | | | | P_DATA1G |
| 10 | PB CLOCK CH1 | P005-21A | | | | +P_CLOK1 |
| 11 | PB CLOCK CH1 | P005-21B | | | | -P_CLOK1 |
| 12 | PB CLOCK CH1 GND | P005-21C | | | | P_CLOK1G |

| P022 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | SYNC + CH0 | P005-11A | | | | SYNC+0 |
| 2 | SYNC - CH0 | P005-12A | | | | SYNC-0 |
| 3 | GND | | | | | GND |
| 4 | SYNC + CH1 | P005-11B | | | | SYNC+1 |
| 5 | SYNC - CH1 | P005-12B | | | | SYNC-1 |
| 6 | GND | | | | | GND |

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4—2—74

# L MOTHER (P026, P027, P028, P029, P032, P034, P035, P036) SCHEMATIC DIAGRAM (7/7)

| P026 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | SYNC OUT | P007-9C | | | | CMPSY |
| 2 | GND (A) | P007-10C | | | | GND_A |
| 3 | SC_OUT | NC | | | | SC_OUT |
| 4 | GND (A) | NC | | | | GND |

| P027 | | FROM/TO | | | | |
|---|---|---|---|---|---|---|
| 1 | DV DATA OUT 7 | P008-15C | | | | DVDATA7 |
| 2 | DV DATA OUT $\overline{7}$ | P008-16C | | | | -DVDATA7 |
| 3 | DV DATA OUT 6 | P008-15B | | | | DVDATA6 |
| 4 | DV DATA OUT $\overline{6}$ | P008-16B | | | | -DVDATA6 |
| 5 | DV DATA OUT 5 | P008-15A | | | | DVDATA5 |
| 6 | DV DATA OUT $\overline{5}$ | P008-16A | | | | -DVDATA5 |
| 7 | DV DATA OUT 4 | P008-17C | | | | DVDATA4 |
| 8 | DV DATA OUT $\overline{4}$ | P008-18C | | | | -DVDATA4 |
| 9 | DV DATA OUT 3 | P008-17B | | | | DVDATA3 |
| 10 | DV DATA OUT $\overline{3}$ | P008-18B | | | | -DVDATA3 |

| P028 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | DV DATA OUT 2 | P008-17A | | | | DVDATA2 |
| 2 | DV DATA OUT $\overline{2}$ | P008-18A | | | | -DVDATA2 |
| 3 | DV DATA OUT 1 | P008-19C | | | | DVDATA1 |
| 4 | DV DATA OUT $\overline{1}$ | P008-20C | | | | -DVDATA1 |
| 5 | DV DATA OUT 0 | P008-19B | | | | DVDATA0 |
| 6 | DV DATA OUT $\overline{0}$ | P008-20B | | | | -DVDATA0 |
| 7 | DV DATA OUT -1 | P008-19A | | | | DVDATA-1 |
| 8 | DV DATA OUT $\overline{-1}$ | P008-20A | | | | -DVDA-1 |
| 9 | DV DATA OUT -2 | P008-21C | | | | DVDATA-2 |
| 10 | DV DATA OUT $\overline{-2}$ | P008-22C | | | | -DVDA-2 |
| 11 | DV CLK 0 | P008-21B | | | | DV_CLK0 |
| 12 | $\overline{\text{DV CLK 0}}$ | P008-22B | | | | -DV_CLK0 |

| P029 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | REF VIDEO IN | P007-20A | | | | REF_V_IN |
| 2 | REF VIDEO IN GND | P007-21A | | | | REF_V_G |
| 3 | BLACK BURST | P007-22A | | | | BLA_BUR |
| 4 | BLACK BURST GND | P007-23A | | | | BLA_GND |
| 5 | EXT CF IN | P007-20B | P004-9C | | | EXT_CF |
| 6 | EXT CF IN GND | P007-21B | | | | EXT_CF_G |
| 7 | CF PULSE | P007-22B | | | | CF_PULSE |
| 8 | CF PULSE GND | P007-23B | | | | CF_P_GND |

| P032 | | |
|---|---|---|
| 1 | DIF CK | P003-5A |
| 2 | $\overline{\text{DIF CK}}$ | P003-6A |
| 3 | DIF CK GND | |
| 4 | DB CK | P003-20B |
| 5 | $\overline{\text{DB CK}}$ | P003-20C |
| 6 | DB CK GND | |

| P034 | | | |
|---|---|---|---|
| 1 | -5V (D) | | |
| 2 | GND (D) | | |
| 3 | +5V (D) | | |
| 4 | +5V (D) | | |
| 5 | +5V (D) | | |
| 6 | +5V (D) | | |
| 7 | GND (D) | | |
| 8 | GND (D) | | |
| 9 | GND (D) | | |
| 10 | GND (D) | | |

| P035 | | |
|---|---|---|
| 1 | -5V (D) | |
| 2 | +5V (D) | |
| 3 | GND (D) | |

| P036 | | |
|---|---|---|
| 1 | TXD | P007-20C |
| 2 | $\overline{\text{TXD}}$ | P007-21C |
| 3 | RXD | P007-22C |
| 4 | $\overline{\text{RXD}}$ | P007-23C |
| 5 | GND (D) | |

C B A

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# , P032, P034, P035, P036) SCHEMATIC DIAGRAM (7/7)

| FROM / TO | | | | |
|---|---|---|---|---|
| -9C | | | | CMPSY |
| -9C | | | | GND_A |
| | | | | SC_OUT |
| | | | | GND |

| FROM/TO | | | | |
|---|---|---|---|---|
| -15C | | | | DVDATA7 |
| -15C | | | | -DVDATA7 |
| -15B | | | | DVDATA6 |
| -15B | | | | -DVDATA6 |
| -16A | | | | DVDATA5 |
| -16A | | | | -DVDATA5 |
| -17C | | | | DVDATA4 |
| -17C | | | | -DVDATA4 |
| -17B | | | | DVDATA3 |
| -18B | | | | -DVDATA3 |

| FROM / TO | | | | |
|---|---|---|---|---|
| -18A | | | | DVDATA2 |
| -18A | | | | -DVDATA2 |
| -19C | | | | DVDATA1 |
| -19C | | | | -DVDATA1 |
| -19B | | | | DVDATA0 |
| -19B | | | | -DVDATA0 |
| -20A | | | | DVDATA-1 |
| -20A | | | | -DVDA-1 |
| -21C | | | | DVDATA-2 |
| -21C | | | | -DVDA-2 |
| -21B | | | | DV_CLKO |
| -21B | | | | -DV_CLKO |

| FROM / TO | | | | |
|---|---|---|---|---|
| -21A | | | | REF_V_IN |
| -21A | | | | REF_V_G |
| -20A | | | | BLA_BUR |
| -20A | | | | BLA_GND |
| -20B | P004-9C | | | EXT_CF |
| -21B | | | | EXT_CF_G |
| -23B | | | | CF_PULSE |
| -23B | | | | CF_P_GND |

| P032 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | DIF CK | P003-5A | | | | DIFCK |
| 2 | $\overline{\text{DIF CK}}$ | P003-6A | | | | -DIFCK |
| 3 | DIF CK GND | | | | | GND |
| 4 | DB CK | P003-20B | | | | DBCK |
| 5 | $\overline{\text{DB CK}}$ | P003-20C | | | | -DBCK |
| 6 | DB CK GND | | | | | GND |

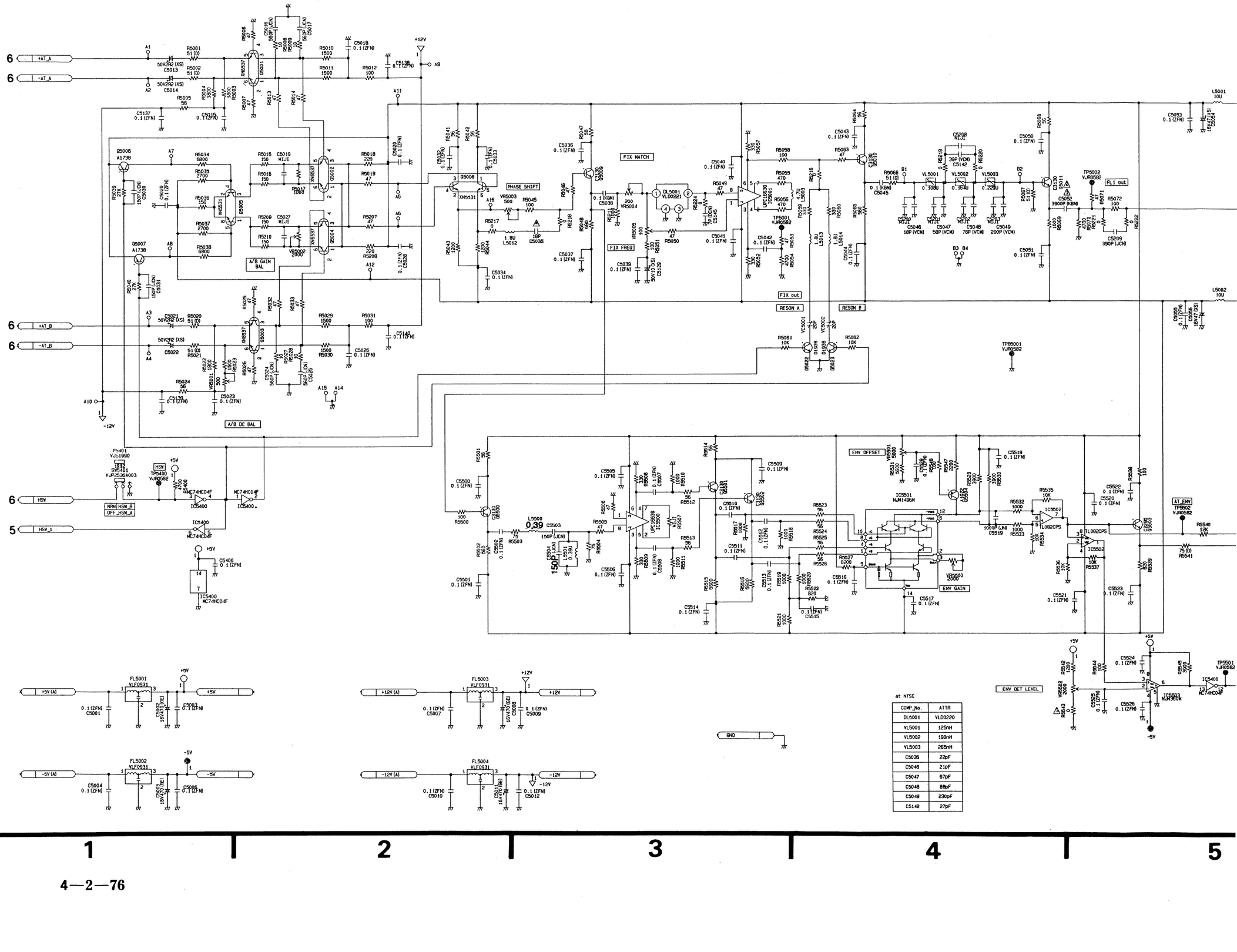
| P034 | | FROM/TO | | | | |
|---|---|---|---|---|---|---|
| 1 | -5V (D) | | | | | -5V (D) |
| 2 | GND (D) | | | | | GND |
| 3 | +5V (D) | | | | | +5V (D1) |
| 4 | +5V (D) | | | | | +5V (D2) |
| 5 | +5V (D) | | | | | +5V (D3) |
| 6 | +5V (D) | | | | | +5V (D4) |
| 7 | GND (D) | | | | | GND |
| 8 | GND (D) | | | | | GND |
| 9 | GND (D) | | | | | GND |
| 10 | GND (D) | | | | | GND |

| P035 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | -5V (D) | | | | | -5V (D) |
| 2 | +5V (D) | | | | | +5V (D1) |
| 3 | GND (D) | | | | | GND |

| P036 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | TXD | P007-20C | | | | +TXD |
| 2 | $\overline{\text{TXD}}$ | P007-21C | | | | -TXD |
| 3 | RXD | P007-22C | | | | +RXD |
| 4 | $\overline{\text{RXD}}$ | P007-23C | | | | -RXD |
| 5 | GND (D) | | | | | GND |

2 3 4 5

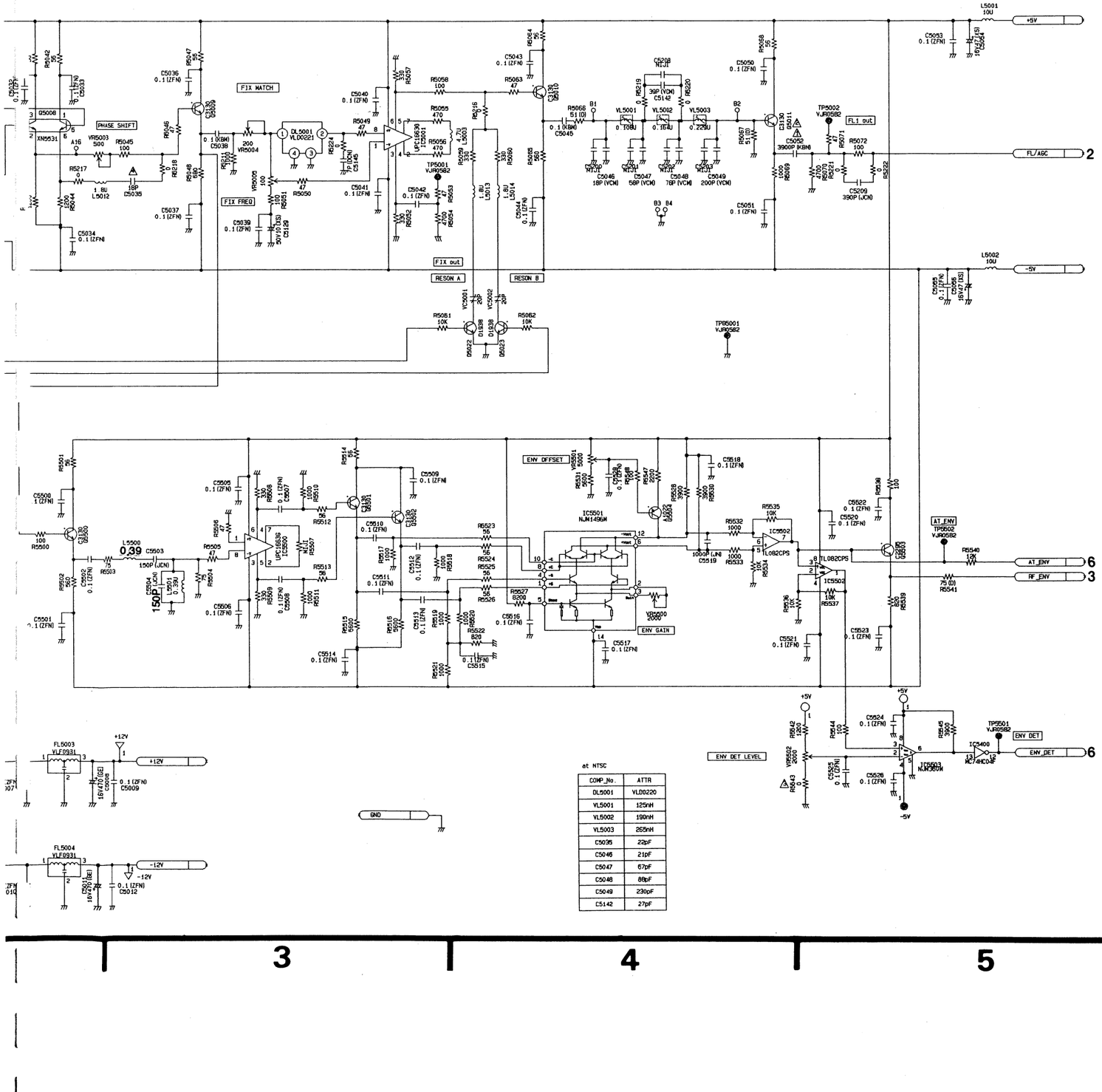
# S1, S2 EQUALIZER CH0, CH1 (INTER FIX FL/POW ENV. DET SCHEMATIC DIAGRAM (1/6)



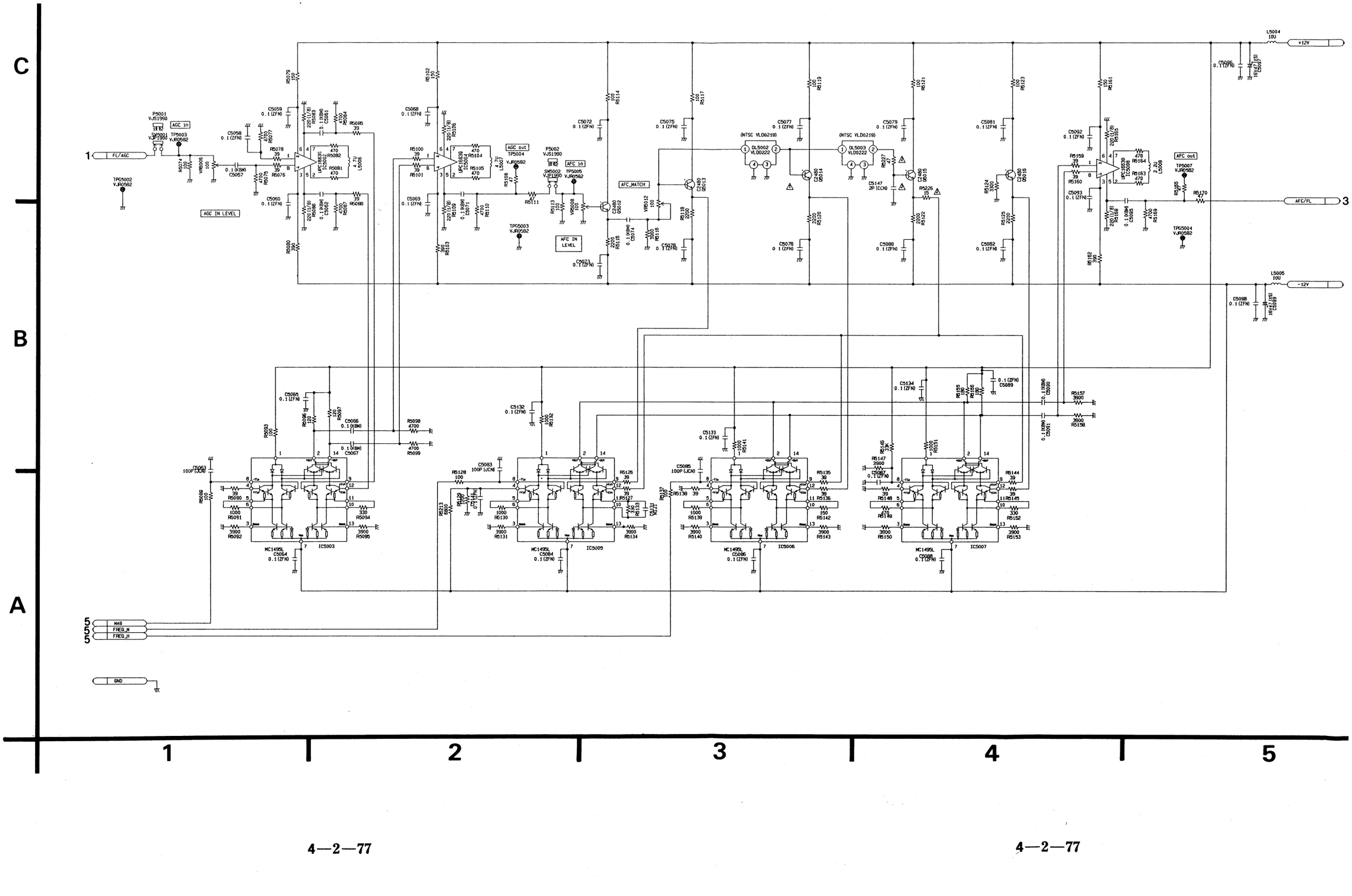

at NTSC

| COMP_No. | ATTR |
|---|---|
| DL5001 | VLD0220 |
| VL5001 | 125nH |
| VL5002 | 190nH |
| VL5003 | 265nH |
| C5035 | 22pF |
| C5046 | 21pF |
| C5047 | 67pF |
| C5048 | 88pF |
| C5049 | 230pF |
| C5142 | 27pF |

# ENV. DET SCHEMATIC DIAGRAM (1/6)



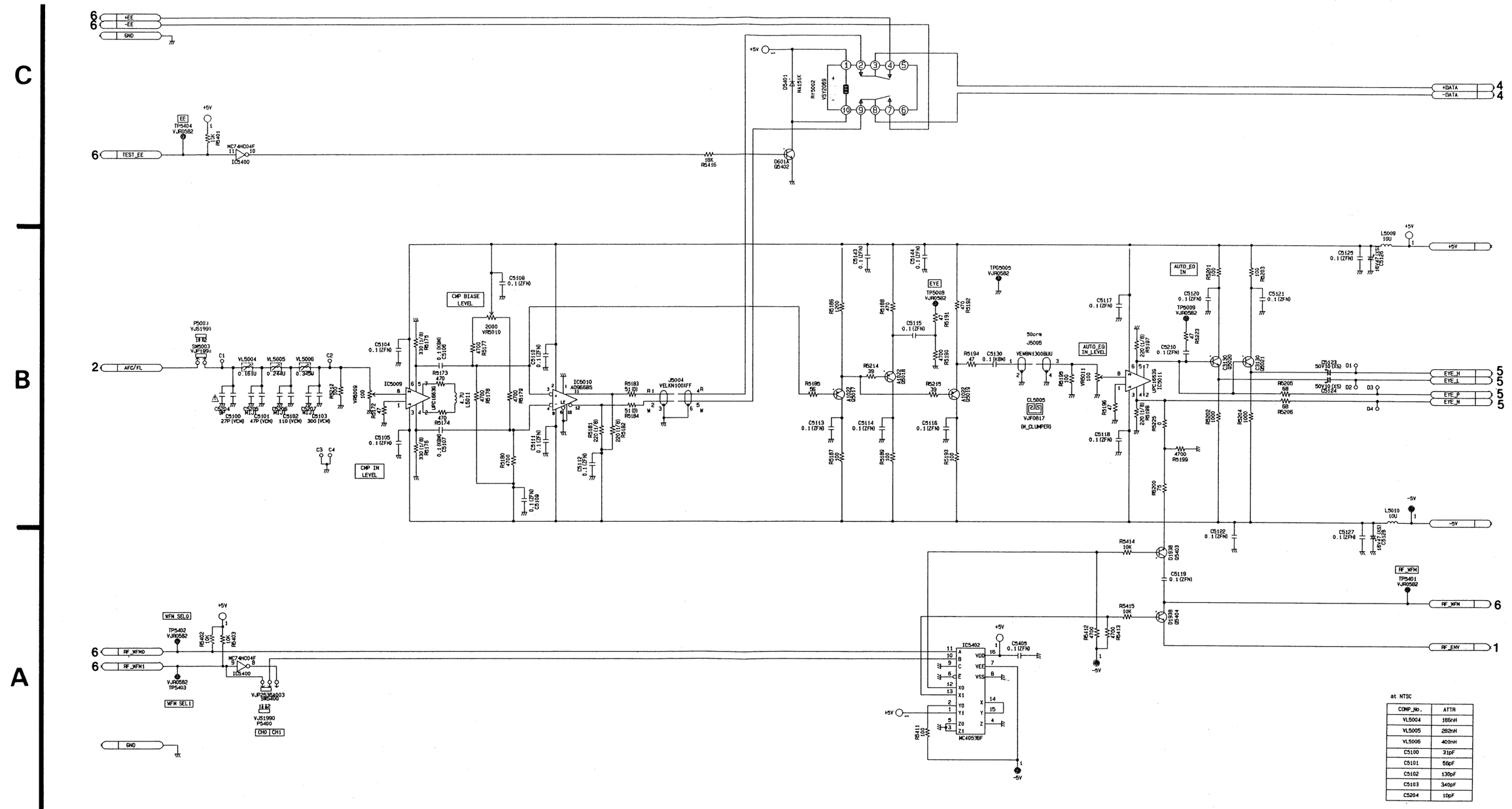
# S1, S2 EQUALIZER CH0, CH1 (AGC, AFC) SCHEMATIC DIAGRAM (2/6)




4—2—77

4—2—77

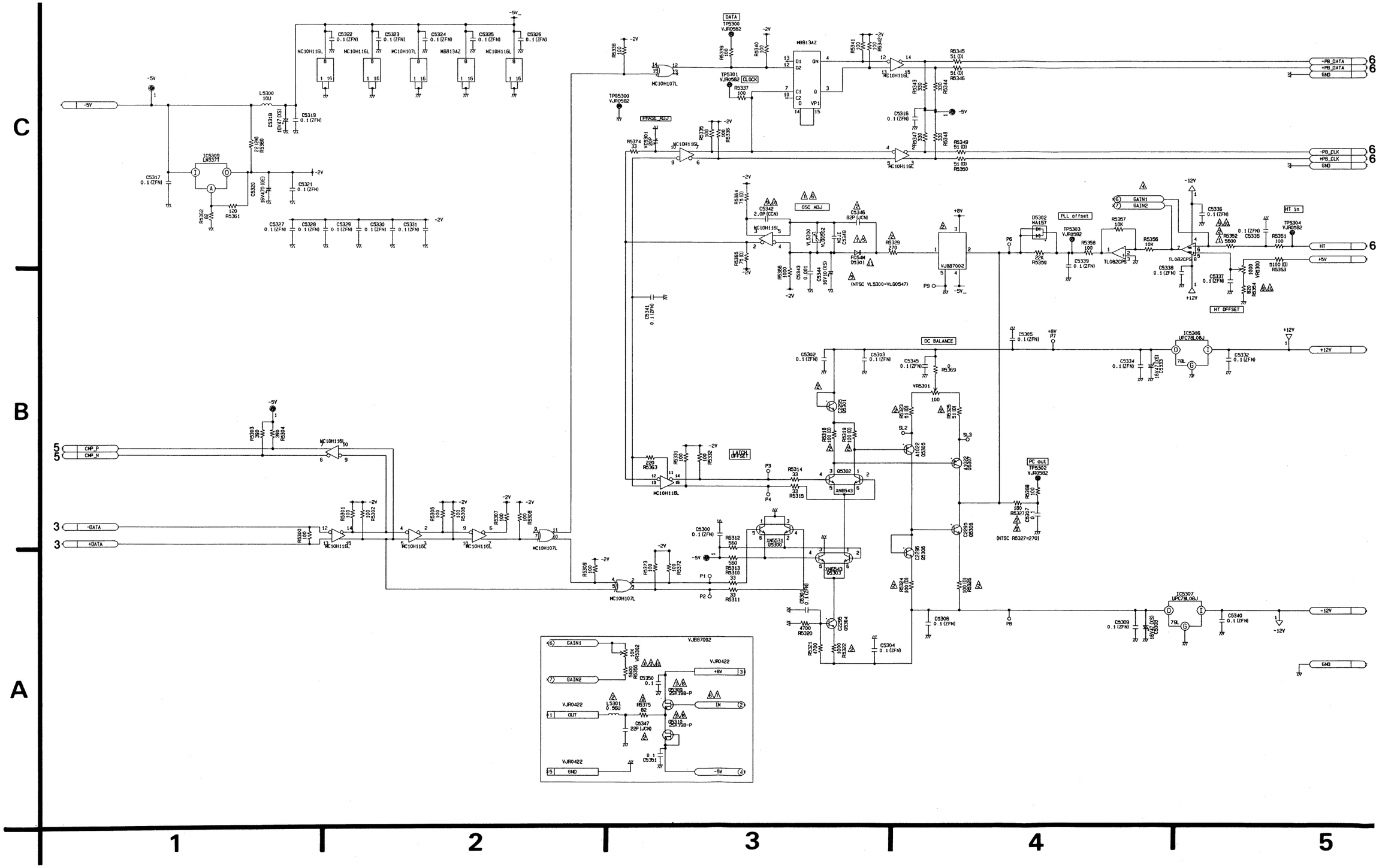
# S1, S2 EQUALIZER CH0, CH1 (2nd FILTER QUANTIZATION) SCHEMATIC DIAGRAM (3/6)






4—2—78

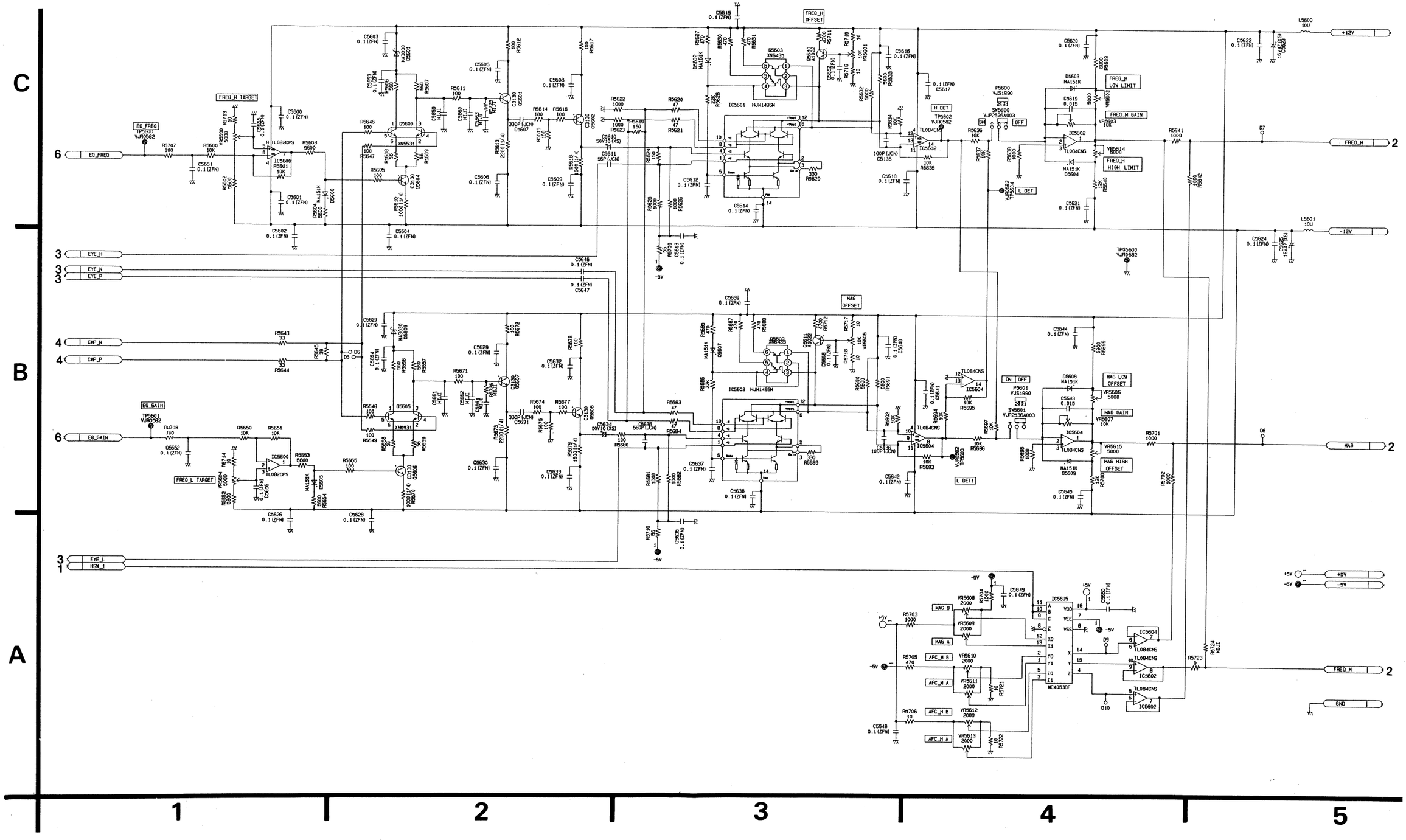
# S1, S2 EQUALIZER CH0, CH1 (PLL DISCRIMINATION) SCHEMATIC DIAGRAM (4/6)




4—2—79

4—2—79

# S1, S2 EQUALIZER CH0, CH1 (ADAPTIVE EQ) SCHEMATIC DIAGRAM (5/6)

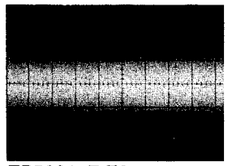


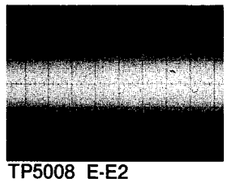

4—2—80

4—2—80

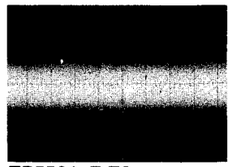
**NTSC**

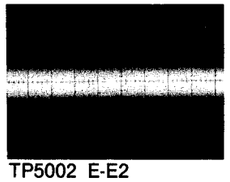
## S1, S2 WAVEFORMS NTSC

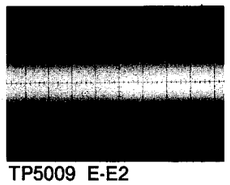

TP5001 E-E2
20mV/20µsec. div.


TP5008 E-E2
20mV/20µsec. div.

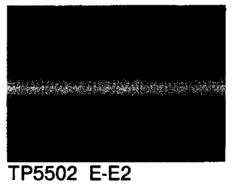
TP5304 E-E2
20mV/20µsec. div.

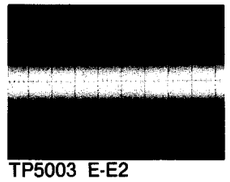

TP5501 E-E2
20mV/20µsec. div.


TP5002 E-E2
20mV/20µsec. div.


TP5009 E-E2
20mV/20µsec. div.

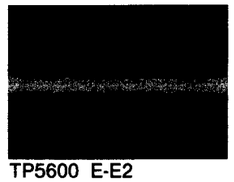
TP5400 E-E2
2V/5msec. div.

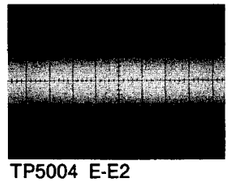

TP5502 E-E2
20mV/20µsec. div.

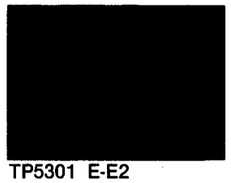

TP5003 E-E2
20mV/20µsec. div.

TP5300 E-E2
500mV/200µsec. div.

TP5401 E-E2
50mV/20µsec. div.

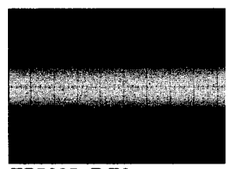

TP5600 E-E2
20mV/20µsec. div.


TP5004 E-E2
20mV/20µsec. div.


TP5301 E-E2
500mV/100µsec. div.

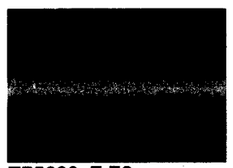
TP5402 E-E2
20mV/20µsec. div.

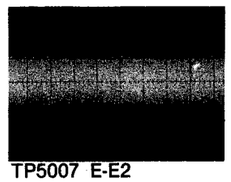
TP5601 E-E2
20mV/10µsec. div.

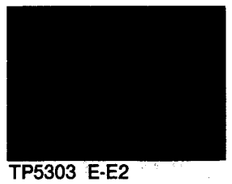

TP5005 E-E2
20mV/20µsec. div.

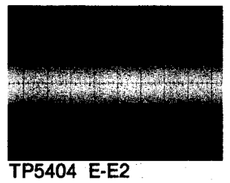
TP5302 E-E2
20mV/50µsec. div.

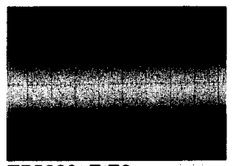
TP5403 E-E2
20mV/20µsec. div.


TP5602 E-E2
500mV/20µsec. div.


TP5007 E-E2
50mV/20µsec. div.

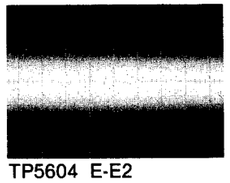

TP5303 E-E2
20mV/50µsec. div.


TP5404 E-E2
50mV/20µsec. div.


TP5603 E-E2
20mV/20µsec. div.



## S1, S2 WAVEFORMS NTSC


TP5604 E-E2
20mV/20µsec. div.

# S1 EQUALIZER CH0, CH1 (CONNECTOR) SCHEMATIC DIAGRAM (6/6) [S MOTHER (P201, P202) SCHEMATIC DIAGRAM (1/14) FOR

| P201 | | S 1 | | | |
|---|---|---|---|---|---|
| | A | FROM / TO | | | |
| 1 | GND (D) | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | AT CH0 A GND | P221-3 | P201-6C | P203-8A | P203-10C |
| 5 | AT CH0 A | P221-1 | P203-9A | | |
| 6 | AT CH0 B GND | P221-6 | P201-8C | P203-10A | P203-12C |
| 7 | AT CH0 B | P221-4 | P203-11A | | |
| 8 | AT GND | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | REC GND | | | | |
| 13 | REC DATA CH0 | P502'-1 | | | |
| 14 | REC DATA CH0 GND | P502'-3 | P201-12C | | |
| 15 | REC DATA CH1 | P502'-4 | | | |
| 16 | REC DATA CH1 GND | P502'-6 | P201-14C | | |
| 17 | REC CLK | P502'-7 | | | |
| 18 | REC CLK GND | P502'-9 | P201-16C | | |
| 19 | CH1 REC | P503'-3 | | | |
| 20 | TEST EE2 | P502'-11 | P203-20A | P245-2B | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | REC ENV CH0 | P235-1 | P210-19B | P208-18C | |
| 25 | REC ENV CH0 GND | P235-2 | P210-19C | P208-19C | |
| 26 | | | | | |
| 27 | | | | | |
| 28 | -5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | +5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

TEST_EE 3

| P201 | S 1 | | | |
|---|---|---|---|---|
| B | FROM / TO | | | |
| GND (D) | | | | |
| | | | | |
| | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
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| GND | | | | |
| GND | | | | |
| GND | | | | |
| | | | | |
| H SW CH1 | P203-22B | P224-4 | | |
| H SW CH0 | P203-23B | P219-4 | | |
| SER H SW | P256-1 | P210-18A | P214-19A | |
| SER H SW GND | P256-2 | P210-18B | | |
| | | | | |
| | | | | |
| | | | | |
| -5V (D) | | | | |
| +5V (D) | | | | |
| +5V (D) | | | | |
| GND (D) | | | | |
| GND (D) | | | | |

HSW 1

| P201 | |
|---|---|
| C | |
| 1 | GND (D) |
| 2 | |
| 3 | |
| 4 | AT GND |
| 5 | AT/CNF CH0 A |
| 6 | AT/CNF CH0 A GND |
| 7 | AT/CNF CH0 B |
| 8 | AT/CNF CH0 B GND |
| 9 | |
| 10 | |
| 11 | |
| 12 | REC DATA CH0 GND |
| 13 | REC DATA CH0 |
| 14 | REC DATA CH1 GND |
| 15 | REC DATA CH1 |
| 16 | REC CLK GND |
| 17 | REC CLK |
| 18 | GND |
| 19 | CH0 REC |
| 20 | FRY ERASE |
| 21 | |
| 22 | |
| 23 | |
| 24 | REC ENV CH1 |
| 25 | REC ENV CH1 GND |
| 26 | |
| 27 | |
| 28 | -5V (D) |
| 29 | +5V (D) |
| 30 | +5V (D) |
| 31 | GND (D) |
| 32 | GND (D) |

| P202 | | S 1 | | | |
|---|---|---|---|---|---|
| | A | FROM / TO | | | |
| 1 | RF WFM GND | P204-1A | P249-4 | P204-1B | P202-1B |
| 2 | ENV CH0 | P208-2A | P204-3A | | |
| 3 | | | | | |
| 4 | E-E CH0 GND | P219-3 | P202-6C | P204-6A | P204-8C |
| 5 | E-E CH0 | P219-1 | P204-7A | | |
| 6 | E-E CH1 GND | P204-4A | P204-6C | P224-3 | P202-8C |
| 7 | E-E CH1 | P204-5A | P224-1 | | |
| 8 | E-E GND | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | ENV DET CH0 | P245-4B | P204-9A | | |
| 15 | PB DATA CH0 GND | P220-3 | P202-17C | P204-11C | P204-10A |
| 16 | PB DATA CH0 | P220-1 | P204-11A | | |
| 17 | PB CLOCK CH0 GND | P220-6 | P202-19C | P204-13C | P204-12A |
| 18 | PB CLOCK CH0 | P220-4 | P204-13A | | |
| 19 | PB GND | | | | |
| 20 | HT SPEED GND | P210-19A | P204-20A | | |
| 21 | PB MODE | P214-21A | P204-21A | | |
| 22 | REC MODE | P256-4 | P214-20A | | |
| 23 | EQ GAIN CH0 | P214-22B | | | |
| 24 | TEST MODE | P256-3 | P214-21B | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

AT_ENV 1
ENV_DET 1
EQ_GAIN 5
-5V (A)
+5V (A)
-12V (A)
+12V (A)
GND

| P202 | S 1 | | | |
|---|---|---|---|---|
| B | FROM / TO | | | |
| RF WFM GND | P204-1A | P249-4 | P202-1A | P204-1B |
| | | | | |
| | | | | |
| | | | | |
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| | | | | |
| | | | | |
| GND | | | | |
| GND | | | | |
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| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | P204-19B | | | |
| GND | | | | |
| REC CURR CH1 | P240-2 | P214-23A | | |
| REC CURR CH0 | P240-1 | P214-22A | | |
| | | | | |
| | | | | |
| -5V (A) | | | | |
| +5V (A) | | | | |
| -12V (A) | | | | |
| +12V (A) | | | | |
| +15V (un) | | | | |
| +8V (un) | | | | |
| GND (A) | | | | |
| GND (A) | | | | |

-5V (A)
+5V (A)
-12V (A)
+12V (A)
GND

| P202 | |
|---|---|
| C | |
| 1 | RF WFM |
| 2 | ENV CH0 GND |
| 3 | |
| 4 | E-E GND |
| 5 | E-E CH0 |
| 6 | E-E CH0 GND |
| 7 | E-E CH1 |
| 8 | E-E CH1 GND |
| 9 | |
| 10 | |
| 11 | |
| 12 | |
| 13 | |
| 14 | |
| 15 | PB GND |
| 16 | PB DATA CH0 |
| 17 | PB DATA CH0 GND |
| 18 | PB CLOCK CH0 |
| 19 | PB CLOCK CH0 GND |
| 20 | HT SPEED |
| 21 | RF WFM SELECT 0 |
| 22 | RF WFM SELECT 1 |
| 23 | EQ FREQ CH0 |
| 24 | |
| 25 | -5V (A) |
| 26 | +5V (A) |
| 27 | -12V (A) |
| 28 | +12V (A) |
| 29 | +15V (un) |
| 30 | +8V (un) |
| 31 | GND (A) |
| 32 | GND (A) |

# EMATIC DIAGRAM (6/6) [S MOTHER (P201, P202) SCHEMATIC DIAGRAM (1/14) FOR S1]

| P201 | S 1 | | | |
|---|---|---|---|---|
| B | FROM / TO | | | |
| GND (D) | | | | |
| | | | | |
| | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| | | | | |
| | | | | |
| H SW CH1 | P203-22B | P224-4 | | |
| H SW CH0 | P203-23B | P219-4 | | |
| SER H SW | P256-1 | P210-18A | P214-19A | |
| SER H SW GND | P256-2 | P210-18B | | |
| | | | | |
| | | | | |
| | | | | |
| -5V (D) | | | | |
| +5V (D) | | | | |
| +5V (D) | | | | |
| GND (D) | | | | |
| GND (D) | | | | |

TEST_EE 3

HSW 1

| P201 | S 1 | | | |
|---|---|---|---|---|
| | C | FROM / TO | | | |
| 1 | GND (D) | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | AT GND | | | | |
| 5 | AT/CNF CH0 A | P221-2 | | | P203-9C |
| 6 | AT/CNF CH0 A GND | P221-3 | P201-4A | P203-8A | P203-10C |
| 7 | AT/CNF CH0 B | P221-5 | | | P203-11C |
| 8 | AT/CNF CH0 B GND | P221-6 | P201-6A | P203-10A | P203-12C |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | REC DATA CH0 GND | P201-14A | P502'-3 | | |
| 13 | REC DATA CH0 | P502'-2 | | | |
| 14 | REC DATA CH1 GND | P201-16A | P502'-6 | | |
| 15 | REC DATA CH1 | P502'-5 | | | |
| 16 | REC CLK GND | P201-18A | P502'-9 | | |
| 17 | REC CLK | P502'-8 | | | |
| 18 | GND | | | | |
| 19 | CH0 REC | P503'-1 | | | |
| 20 | FRY ERASE | P502'-10 | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | REC ENV CH1 | P235-3 | P210-22A | P208-20C | |
| 25 | REC ENV CH1 GND | P235-4 | P210-23A | P208-21C | |
| 26 | | | | | |
| 27 | | | | | |
| 28 | -5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | +5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

J5001 VEE7219 — CN5001 VJP1230R — VJP1230H

+AT_A 1
-AT_A 1

J5002 VEE7220 — CN5002 VJP1230G — VJP1230G

-AT_B 1
+AT_B 1

| P202 | S 1 | | | |
|---|---|---|---|---|
| B | FROM / TO | | | |
| RF WFM GND | P204-1A | P249-4 | P202-1A | P204-1B |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | | | | |
| GND | P204-19B | | | |
| GND | | | | |
| REC CURR CH1 | P240-2 | P214-23A | | |
| REC CURR CH0 | P240-1 | P214-22A | | |
| | | | | |
| | | | | |
| -5V (A) | | | | |
| +5V (A) | | | | |
| -12V (A) | | | | |
| +12V (A) | | | | |
| +15V (un) | | | | |
| +8V (un) | | | | |
| GND (A) | | | | |
| GND (A) | | | | |

AT_ENV 1

ENV_DET 1

EQ_GAIN 5

-5V (A)
+5V (A)
-12V (A)
+12V (A)

GND

-5V (A)
+5V (A)
-12V (A)
+12V (A)

GND

| P202 | S 1 | | | |
|---|---|---|---|---|
| | C | FROM / TO | | | |
| 1 | RF WFM | P204-1C | P249-3 | | |
| 2 | ENV CH0 GND | P208-3A | P204-3A | | |
| 3 | | | | | |
| 4 | E-E GND | | | | |
| 5 | E-E CH0 | P219-2 | P204-7C | | |
| 6 | E-E CH0 GND | P219-3 | P202-4A | P204-6A | P204-8C |
| 7 | E-E CH1 | P204-5C | P224-2 | | |
| 8 | E-E CH1 GND | P204-6C | P202-6A | P204-4A | P224-3 |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | PB GND | | | | |
| 16 | PB DATA CH0 | P220-2 | P204-10C | | |
| 17 | PB DATA CH0 GND | P220-3 | P202-15A | P204-11C | P204-10A |
| 18 | PB CLOCK CH0 | P220-5 | P204-12C | | |
| 19 | PB CLOCK CH0 GND | P220-6 | P202-17A | P204-13C | P204-12A |
| 20 | HT SPEED | P210-18C | P204-20C | | |
| 21 | RF WFM SELECT 0 | P214-20C | P204-21C | | |
| 22 | RF WFM SELECT 1 | P214-21C | P204-22C | | |
| 23 | EQ FREQ CH0 | P214-22C | P204-24C | | |
| 24 | | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

RF_WFM 3

J5400 VELKN110XFF

+EE 3
-EE 3
GND

J5300 VELKN140XFF

+PB_DATA 4
-PB_DATA 4
GND

J5301 VELKN140XFF

+PB_CLK 4
-PB_CLK 4
GND
HT 4
RF_WFM0 3
RF_WFM1 3
EQ_FREQ 5

-5V (A)
+5V (A)
-12V (A)
+12V (A)

GND

2 3 4 5 6

# S2 EQUALIZER CH0, CH1 (CONNECTOR) SCHEMATIC DIAGRAM (6/6) [S MOTHER (P203, P204) SCHEMATIC DIAGRAM (2/14) FO

| P203 | | S 2 | | | |
|---|---|---|---|---|---|
| | A | FROM / TO | | | |
| 1 | GND (D) | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | AT CH1 A GND | P221-9 | P203-6C | | |
| 5 | AT CH1 A | P221-7 | | | |
| 6 | AT CH1 B GND | P221-12 | P203-8C | | |
| 7 | AT CH1 B | P221-10 | | | |
| 8 | AT CH0 A GND | P201-4A | P221-3 | P201-6C | P203-10C |
| 9 | AT CH0 A | P201-5A | P221-1 | | |
| 10 | AT CH0 B GND | P201-6A | P221-6 | P201-8C | P203-12C |
| 11 | AT CH0 B | P201-7A | P221-4 | | |
| 12 | AT GND | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | TEST EE2 | P201-20A | P245-2B | P502-11 | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | | | | | |
| 26 | | | | | |
| 27 | | | | | |
| 28 | -5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | +5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

TEST_EE 3

| P203 | | S 2 | | | |
|---|---|---|---|---|---|
| | B | FROM / TO | | | |
| 1 | GND (D) | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | GND | | | | |
| 5 | GND | | | | |
| 6 | GND | | | | |
| 7 | GND | | | | |
| 8 | GND | | | | |
| 9 | GND | | | | |
| 10 | GND | | | | |
| 11 | GND | | | | |
| 12 | GND | | | | |
| 13 | GND | | | | |
| 14 | GND | | | | |
| 15 | GND | | | | |
| 16 | GND | | | | |
| 17 | GND | | | | |
| 18 | GND | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | H SW CH1 | P201-21B | P224-4 | | |
| 23 | H SW CH0 | P201-22B | P219-4 | | |
| 24 | | | | | |
| 25 | | | | | |
| 26 | | | | | |
| 27 | | | | | |
| 28 | -5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | +5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

HSW 1

| P203 | | |
|---|---|---|
| | C | |
| 1 | GND (D) | |
| 2 | | |
| 3 | | |
| 4 | AT GND | |
| 5 | AT CH1 A | P221-8 |
| 6 | AT CH1 A GND | P221-9 |
| 7 | AT CH1 B | P221-1 |
| 8 | AT CH1 B GND | P221-1 |
| 9 | AT CH0 A | P201-5 |
| 10 | AT CH0 A GND | P201-6 |
| 11 | AT CH0 B | P201-7 |
| 12 | AT CH0 B GND | P201-8 |
| 13 | | |
| 14 | | |
| 15 | | |
| 16 | | |
| 17 | | |
| 18 | | |
| 19 | | |
| 20 | | |
| 21 | | |
| 22 | | |
| 23 | | |
| 24 | | |
| 25 | | |
| 26 | | |
| 27 | | |
| 28 | -5V (D) | |
| 29 | +5V (D) | |
| 30 | +5V (D) | |
| 31 | GND (D) | |
| 32 | GND (D) | |

| P204 | | S 2 | | | |
|---|---|---|---|---|---|
| | A | FROM / TO | | | |
| 1 | RF WFM GND | P202-1A | P249-4 | P201-1B | P204-1B |
| 2 | ENV CH1 | P208-4A | | | |
| 3 | ENV CH0 | P208-2A | P202-2A | | |
| 4 | E-E CH1 GND | P224-3 | P204-6C | P202-6A | P202-8C |
| 5 | E-E CH1 | P224-1 | P202-7A | | |
| 6 | E-E CH0 GND | P202-4A | P202-6C | P204-8C | P219-3 |
| 7 | E-E CH0 | P202-5A | P219-1 | | |
| 8 | E-E GND | | | | |
| 9 | ENV DET CH0 | P202-14A | P245-4B | | |
| 10 | PB DATA CH0 GND | P202-15A | P220-3 | P202-17C | P204-11C |
| 11 | PB DATA CH0 | P202-16A | P220-1 | | |
| 12 | PS CLOCK CH0 GND | P202-17A | P220-6 | P202-19C | P204-13C |
| 13 | PS CLOCK CH0 | P202-18A | P220-4 | | |
| 14 | ENV DET CH1 | P245-3B | | | |
| 15 | PB DATA CH1 GND | P220-9 | P204-17C | | |
| 16 | PB DATA CH1 | P220-7 | | | |
| 17 | PB CLOCK CH1 GND | P220-12 | P204-19C | | |
| 18 | PB CLOCK CH1 | P220-10 | | | |
| 19 | PB GND | | | | |
| 20 | HT SPEED GND | P202-20A | P210-19A | | |
| 21 | PB MODE | P214-21A | P202-21A | | |
| 22 | | | | | |
| 23 | EQ GAIN CH1 | P214-23B | | | |
| 24 | EQ GAIN CH0 | P202-23A | P214-22B | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

AT_ENV 1

ENV_DET 1

EQ_GAIN 5

-5V (A)

+5V (A)

-12V (A)

+12V (A)

GND

| P204 | | S 2 | | | |
|---|---|---|---|---|---|
| | B | FROM / TO | | | |
| 1 | RF WFM GND | P202-1B | P249-4 | P202-1A | P204-1A |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | GND | | | | |
| 10 | GND | | | | |
| 11 | GND | | | | |
| 12 | GND | | | | |
| 13 | GND | | | | |
| 14 | GND | | | | |
| 15 | GND | | | | |
| 16 | GND | | | | |
| 17 | GND | | | | |
| 18 | GND | | | | |
| 19 | GND | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

-5V (A)

+5V (A)

-12V (A)

+12V (A)

GND

| P204 | | |
|---|---|---|
| | C | |
| 1 | RF WFM | P202- |
| 2 | ENV CH1 GND | P208- |
| 3 | ENV CH0 GND | P202- |
| 4 | E-E GND | |
| 5 | E-E CH1 | P224- |
| 6 | E-E CH1 GND | P224- |
| 7 | E-E CH0 | P202- |
| 8 | E-E CH0 GND | P202- |
| 9 | PB GND | |
| 10 | PB DATA CH0 | P202- |
| 11 | PB DATA CH0 GND | P202- |
| 12 | PB CLOCK CH0 | P202- |
| 13 | PB CLOCK CH0 GND | P202- |
| 14 | | |
| 15 | | |
| 16 | PB DATA CH1 | P220- |
| 17 | PB DATA CH1 GND | P204- |
| 18 | PB CLOCK CH1 | P220- |
| 19 | PB CLOCK CH1 GND | P204- |
| 20 | HT SPEED | P202- |
| 21 | RF WFM SERECT 0 | P214- |
| 22 | RF WFM SERECT 1 | P214- |
| 23 | EQ FREQ CH1 | P214- |
| 24 | EQ FREQ CH0 | P202- |
| 25 | -5V (A) | |
| 26 | +5V (A) | |
| 27 | -12V (A) | |
| 28 | +12V (A) | |
| 29 | +15V (un) | |
| 30 | +8V (un) | |
| 31 | GND (A) | |
| 32 | GND (A) | |

C

B

A

1 2 3 4

# MATIC DIAGRAM (6/6) [S MOTHER (P203, P204) SCHEMATIC DIAGRAM (2/14) FOR S2]

| P203 | B | S 2 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | GND | | | | |
| 5 | GND | | | | |
| 6 | GND | | | | |
| 7 | GND | | | | |
| 8 | GND | | | | |
| 9 | GND | | | | |
| 10 | GND | | | | |
| 11 | GND | | | | |
| 12 | GND | | | | |
| 13 | GND | | | | |
| 14 | GND | | | | |
| 15 | GND | | | | |
| 16 | GND | | | | |
| 17 | GND | | | | |
| 18 | GND | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | H SW CH1 | P201-21B | P224-4 | | |
| 23 | H SW CH0 | P201-22B | P219-4 | | |
| 24 | | | | | |
| 25 | | | | | |
| 26 | | | | | |
| 27 | | | | | |
| 28 | -5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | +5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

TEST_EE 3

HSW 1

| P203 | C | S 2 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | AT GND | | | | |
| 5 | AT CH1 A | P221-8 | | | |
| 6 | AT CH1 A GND | P221-9 | P203-4A | | |
| 7 | AT CH1 B | P221-11 | | | |
| 8 | AT CH1 B GND | P221-12 | P203-6A | | |
| 9 | AT CH0 A | P201-5C | P221-2 | | |
| 10 | AT CH0 A GND | P201-6C | P221-3 | P203-8A | P201-4A |
| 11 | AT CH0 B | P201-7C | P221-5 | | |
| 12 | AT CH0 B GND | P201-8C | P221-6 | P203-10A | P201-6A |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | | | | | |
| 26 | | | | | |
| 27 | | | | | |
| 28 | -5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | +5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

J5001 VEE7219 — CN5001 VJP1230R

W 4 — 1W — 1 — +AT_A 1
R 5 — 2 — -AT_A 1
R 6 — 2R — 3 — VJP1230H

R 5 — 6 — 3 — 2R — 3 — -AT_B 1
W 4 — 1W — 2 — +AT_B 1
VEE7220 J5002 — VJP1230G CN5002 VJP1230G

| P204 | B | S 2 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | RF WFM GND | P202-1B | P249-4 | P202-1A | P204-1A |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | GND | | | | |
| 10 | GND | | | | |
| 11 | GND | | | | |
| 12 | GND | | | | |
| 13 | GND | | | | |
| 14 | GND | | | | |
| 15 | GND | | | | |
| 16 | GND | | | | |
| 17 | GND | | | | |
| 18 | GND | | | | |
| 19 | GND | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

AT_ENV 1
ENV_DET 1
EQ_GAIN 5
-5V (A)
+5V (A)
-12V (A)
+12V (A)
GND

-5V (A)
+5V (A)
-12V (A)
+12V (A)
GND

| P204 | C | S 2 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | RF WFM | P202-1C | P249-3 | | |
| 2 | ENV CH1 GND | P208-5A | | | |
| 3 | ENV CH0 GND | P202-2C | P208-3A | | |
| 4 | E-E GND | | | | |
| 5 | E-E CH1 | P224-2 | P202-7C | | |
| 6 | E-E CH1 GND | P224-3 | P204-4A | P202-8C | P202-6A |
| 7 | E-E CH0 | P202-5C | P219-2 | | |
| 8 | E-E CH0 GND | P202-6C | P219-3 | P202-4A | P204-6A |
| 9 | PB GND | | | | |
| 10 | PB DATA CH0 | P202-16C | P220-2 | | |
| 11 | PB DATA CH0 GND | P202-17C | P220-3 | P202-15A | P204-10A |
| 12 | PB CLOCK CH0 | P202-18C | P220-5 | | |
| 13 | PB CLOCK CH0 GND | P202-19C | P220-6 | P202-17A | P204-12A |
| 14 | | | | | |
| 15 | | | | | |
| 16 | PB DATA CH1 | P220-8 | | | |
| 17 | PB DATA CH1 GND | P204-15A | P220-9 | | |
| 18 | PB CLOCK CH1 | P220-11 | | | |
| 19 | PB CLOCK CH1 GND | P204-17A | P220-12 | | |
| 20 | HT SPEED | P202-20C | P210-18C | | |
| 21 | RF WFM SERECT 0 | P214-20C | P202-21C | | |
| 22 | RF WFM SERECT 1 | P214-21C | P202-22C | | |
| 23 | EQ FREQ CH1 | P214-23C | | | |
| 24 | EQ FREQ CH0 | P202-23C | P214-22C | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

RF_WFM 3

J5400 VELKN110XFF
W 4 — 1W — 1 — +EE 3
R 5 — 2 — -EE 3
R 6 — 2R — 3 — GND

J5300 VELKN140XFF
W 4 — 1W — 1 — +PB_DATA 4
R 5 — 2 — -PB_DATA 4
R 6 — 2R — 3 — GND

J5301 VELKN140XFF
W 4 — 1W — 1 — +PB_CLK 4
R 5 — 2 — -PB_CLK 4
R 6 — 2R — 3 — GND

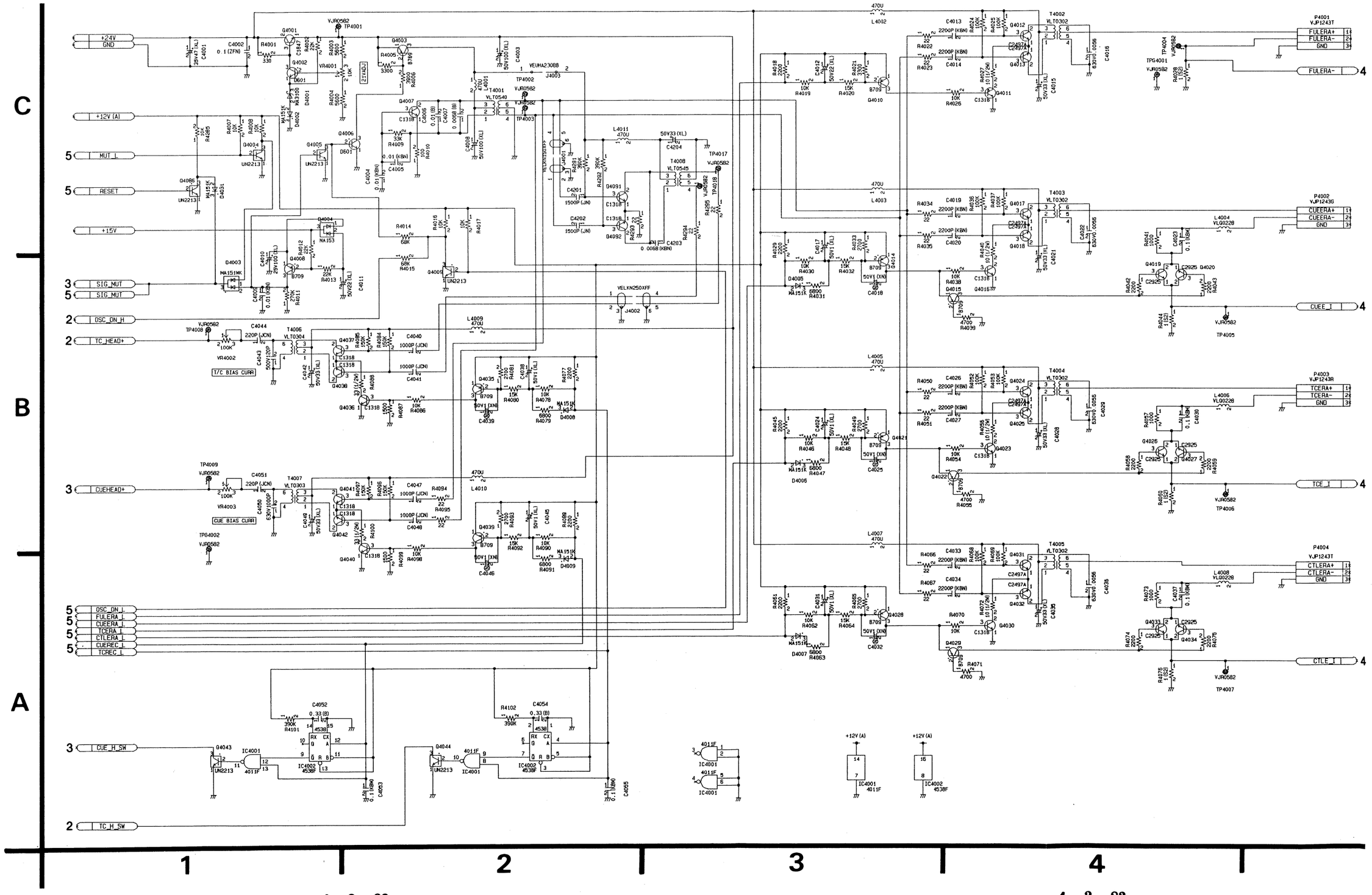
HT 4
RF_WFM0 3
RF_WFM1 3
EQ_FREQ 5

-5V (A)
+5V (A)
-12V (A)
+12V (A)

GND

3 4 5 6

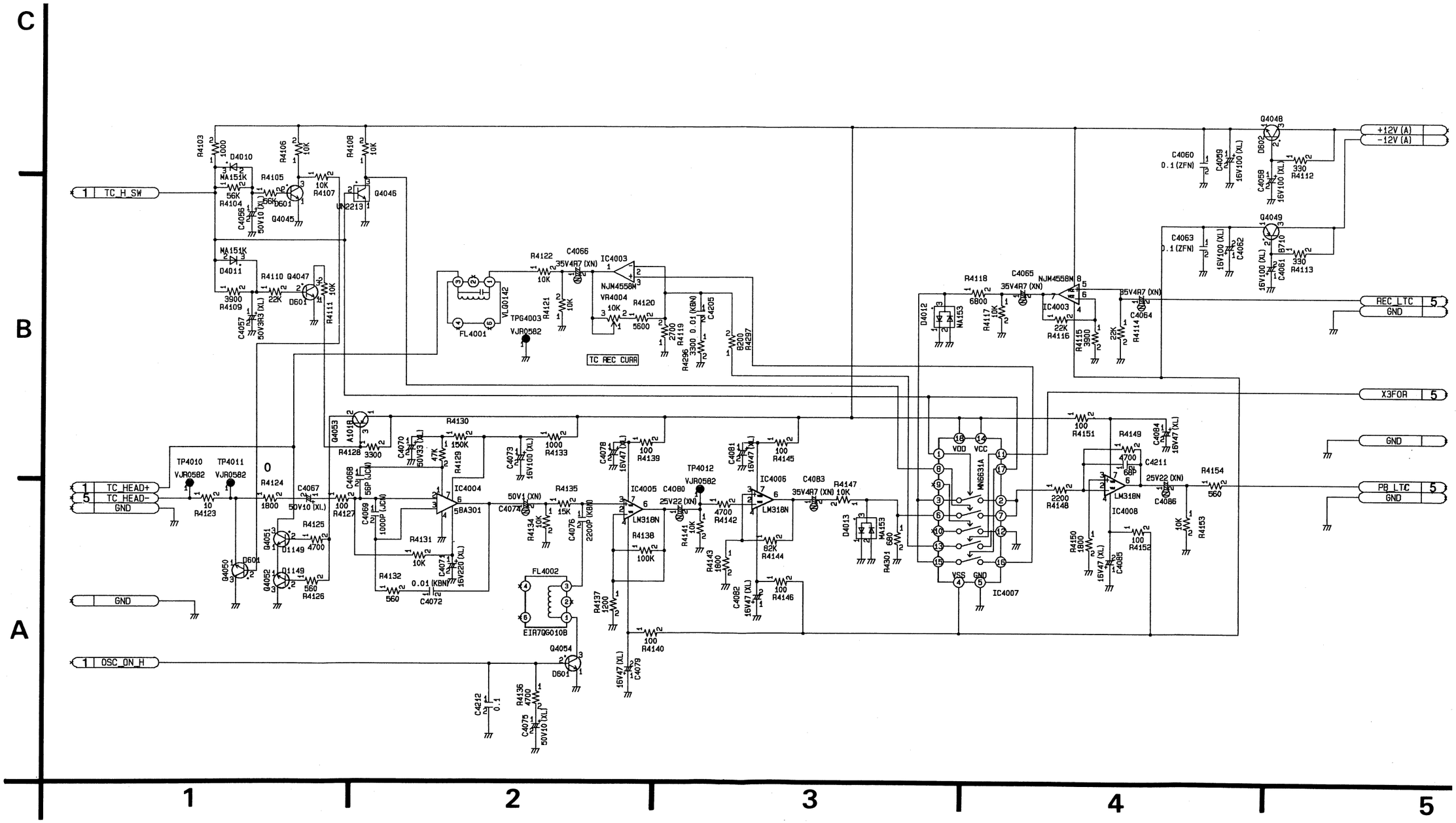
# S3 CUE AUDIO SCHEMATIC DIAGRAM (1/5)




4—2—83

4—2—83

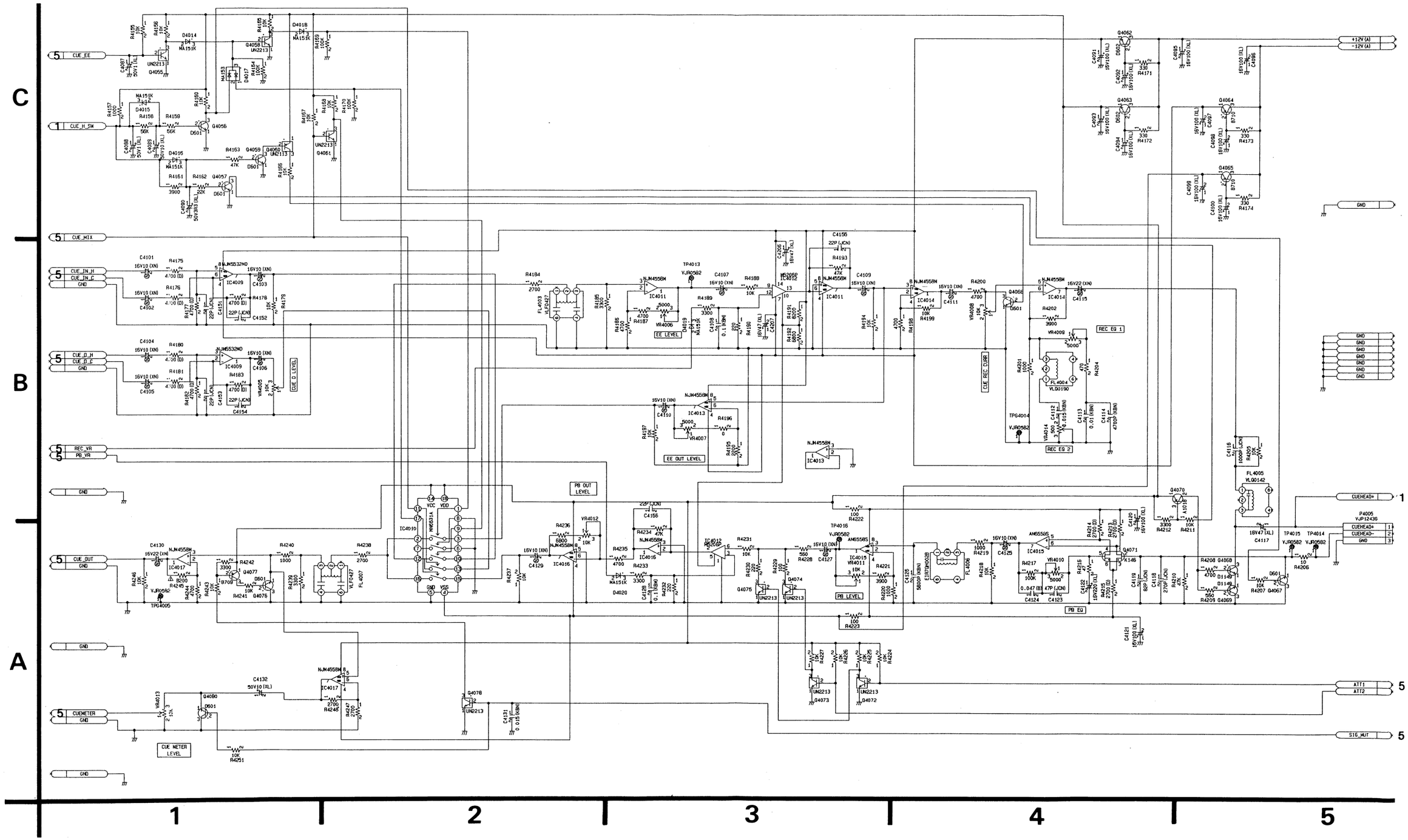
# S3 CUE AUDIO SCHEMATIC DIAGRAM (2/5)




4—2—84

4—2—84

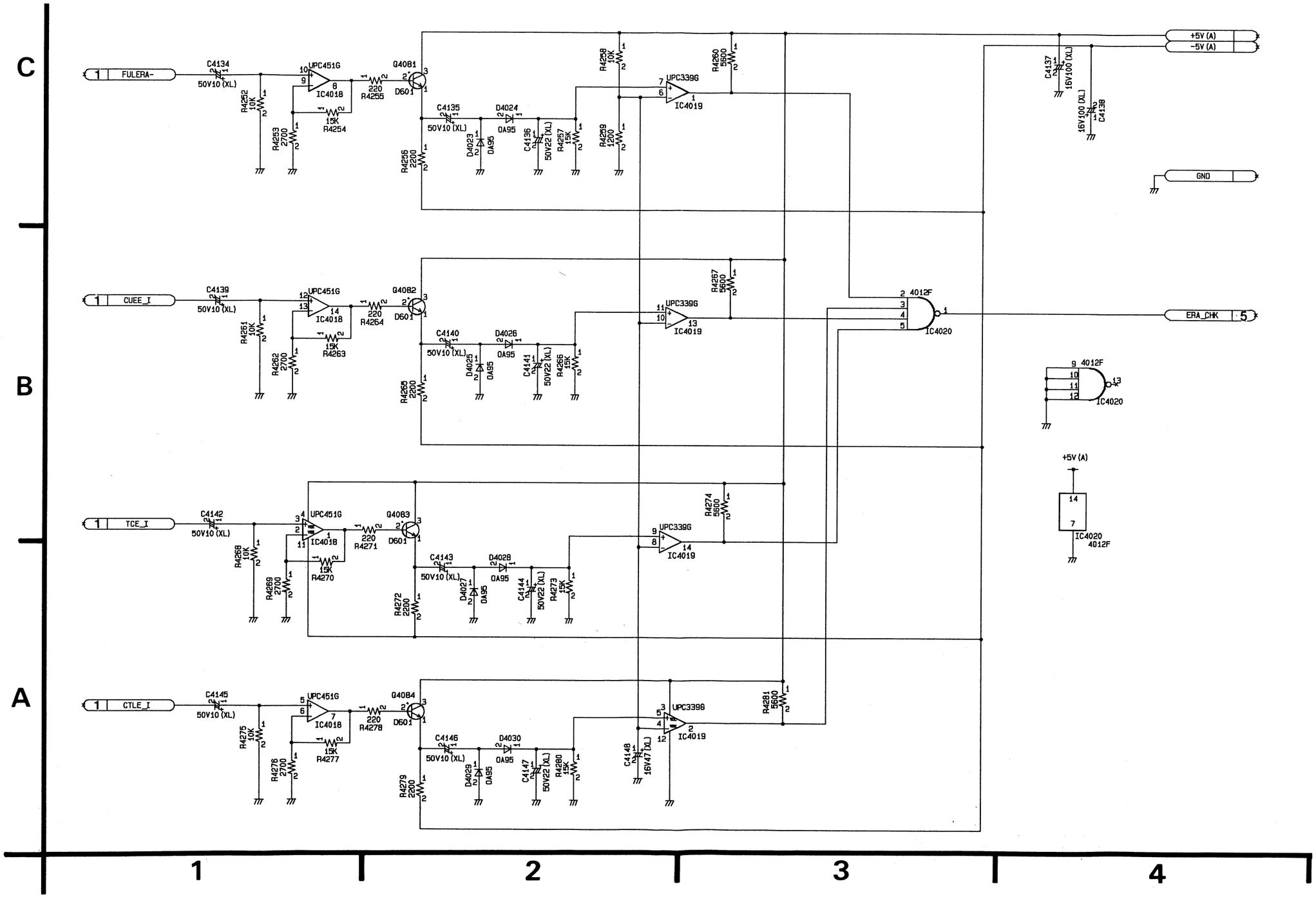
# S3 CUE AUDIO SCHEMATIC DIAGRAM (3/5)




4—2—85

4—2—85

# S3 CUE AUDIO SCHEMATIC DIAGRAM (4/5)




4—2—86

4—2—86

# S3 CUE AUDIO SCHEMATIC DIAGRAM (5/5) [S MOTHER (P205, P206) SCHEMATIC DIAGRAM (3/14) FOR S3]

| P205 | A | S 3 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | | | | | |
| 3 | GND (A) | | | | |
| 4 | TC R/P HEAD GND | P228-3 | | | |
| 5 | GND (A) | | | | |
| 6 | GND (A) | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | REC LTC | P211-26A | | | |
| 20 | | | | | |
| 21 | FULL ERASE | P211-21A | | | |
| 22 | CUE ERASE | P211-22A | | | |
| 23 | CUE REC | P211-23A | | | |
| 24 | MUTE | P211-24A | | | |
| 25 | CUE REC VR | P211-25A | | | |
| 26 | SIG MUTE | P230-3 | P230-6 | | |
| 27 | +24V (un) | | | | |
| 28 | -5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | +5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

GND
GND
GND
GND
REC_LTC 2
FULERA_L 1
CUEERA_L 1
CUEREC_L 1
MUT_L 1
REC_VR 3
SIG_MUT 3
+24V
-5V (D)
+5V (D)

| P205 | B | S 3 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | | | | | |
| 3 | GND (A) | | | | |
| 4 | TC R/P HEAD C | P228-2 | | | |
| 5 | GND (A) | | | | |
| 6 | GND (A) | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | PB LTC | P211-26B | | | |
| 20 | | | | | |
| 21 | OSC ON | P211-21B | | | |
| 22 | TC ERASE | P211-22B | | | |
| 23 | TC REC | P211-23B | | | |
| 24 | ATT 1 | P211-24B | | | |
| 25 | CUE PB VR | P211-25B | | | |
| 26 | | | | | |
| 27 | +24V (un) | | | | |
| 28 | -5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | +5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

GND
TC_HEAD- 2
GND
GND
PB_LTC 2
OSC_ON_L 1
TCERA_L 1
TCREC_L 1
ATT1 3
PB_VR 3
+24V
-5V (D)
+5V (D)

| P205 | C |
|---|---|
| 1 | GND (D) |
| 2 | |
| 3 | GND (A) |
| 4 | TC R/P HEAD H |
| 5 | GND (A) |
| 6 | GND (A) |
| 7 | |
| 8 | |
| 9 | SYS RESET |
| 10 | |
| 11 | |
| 12 | |
| 13 | |
| 14 | |
| 15 | |
| 16 | |
| 17 | |
| 18 | |
| 19 | |
| 20 | |
| 21 | ERASE CHECK |
| 22 | CTL ERASE |
| 23 | CUE EE |
| 24 | ATT 2 |
| 25 | CUE MIX |
| 26 | |
| 27 | +24V (un) |
| 28 | -5V (D) |
| 29 | +5V (D) |
| 30 | +5V (D) |
| 31 | GND (D) |
| 32 | GND (D) |

| P206 | A | S 3 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | GND (A) | | | | |
| 7 | GND (A) | | | | |
| 8 | GND (A) | | | | |
| 9 | GND (A) | | | | |
| 10 | GND (A) | | | | |
| 11 | GND (A) | | | | |
| 12 | GND (A) | | | | |
| 13 | CUE LINE SIG GND | P231-3 | | | |
| 14 | GND (A) | | | | |
| 15 | GND (A) | | | | |
| 16 | CUE D GND | P216-16A | | | |
| 17 | GND (A) | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

GND
GND
GND
GND
GND
GND
GND
GND
GND
GND
GND
-5V (A)
+5V (A)
-12V (A)
+12V (A)
+15V
+8V
GND
GND

| P206 | B | S 3 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | GND (A) | | | | |
| 7 | CUE METER GND | P216-11B | | | |
| 8 | GND (A) | | | | |
| 9 | GND (A) | | | | |
| 10 | CUE GND | P230-2 | P230-5 | | |
| 11 | GND (A) | | | | |
| 12 | GND (A) | | | | |
| 13 | CUE LINE SIG C | P231-2 | | | |
| 14 | GND (A) | | | | |
| 15 | GND (A) | | | | |
| 16 | CUE D C | P216-16B | | | |
| 17 | GND (A) | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

GND
GND
GND
GND
GND
GND
GND
CUE_IN_C 3
GND
GND
CUE_D_C 3
GND
-5V (A)
+5V (A)
-12V (A)
+12V (A)
+15V
+8V
GND
GND

| P206 | C |
|---|---|
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | GND (A) |
| 7 | CUE METER |
| 8 | GND (A) |
| 9 | GND (A) |
| 10 | CUE SIG |
| 11 | GND (A) |
| 12 | GND (A) |
| 13 | CUE LINE SIG H |
| 14 | GND (A) |
| 15 | GND (A) |
| 16 | CUE D H |
| 17 | GND (A) |
| 18 | |
| 19 | |
| 20 | |
| 21 | |
| 22 | |
| 23 | |
| 24 | |
| 25 | -5V (A) |
| 26 | +5V (A) |
| 27 | -12V (A) |
| 28 | +12V (A) |
| 29 | +15V (un) |
| 30 | +8V (un) |
| 31 | GND (A) |
| 32 | GND (A) |

C B A

1 2 3 4 5

# MOTHER (P205, P206) SCHEMATIC DIAGRAM (3/14) FOR S3]

GND
GND
GND
GND

REC_LTC 2
FULERA_L 1
CUERA_L 1
CUEREC_L 1
MUT_L 1
REC_VR 3
SIG_MUT 3
+24V

| P205 | B | S 3 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | | | | | |
| 3 | GND (A) | | | | |
| 4 | TC R/P HEAD C | P228-2 | | | |
| 5 | GND (A) | | | | |
| 6 | GND (A) | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | PB LTC | P211-26B | | | |
| 20 | | | | | |
| 21 | OSC ON | P211-21B | | | |
| 22 | TC ERASE | P211-22B | | | |
| 23 | TC REC | P211-23B | | | |
| 24 | ATT 1 | P211-24B | | | |
| 25 | CUE PB VR | P211-25B | | | |
| 26 | | | | | |
| 27 | +24V (un) | | | | |
| 28 | -5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | +5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

GND
TC_HEAD- 2
GND
GND

PB_LTC 2
OSC_ON_L 1
TCERA_L 1
TCREC_L 1
ATT1 3
PB_VR 3
+24V
-5V (D)
+5V (D)

| P205 | C | S 3 FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | GND (D) | | | | | |
| 2 | | | | | | |
| 3 | GND (A) | | | | | |
| 4 | TC R/P HEAD H | P228-1 | | | | |
| 5 | GND (A) | | | | | |
| 6 | GND (A) | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | SYS RESET | P211-9C | P213-9C | P233-10A | P241-12B | P260-9 |
| 10 | | | | | | |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | | | | | | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | | | | | |
| 20 | | | | | | |
| 21 | ERASE CHECK | P211-21C | | | | |
| 22 | CTL ERASE | P211-22C | | | | |
| 23 | CUE EE | P211-23C | | | | |
| 24 | ATT 2 | P211-24C | | | | |
| 25 | CUE MIX | P211-25C | | | | |
| 26 | | | | | | |
| 27 | +24V (un) | | | | | |
| 28 | -5V (D) | | | | | |
| 29 | +5V (D) | | | | | |
| 30 | +5V (D) | | | | | |
| 31 | GND (D) | | | | | |
| 32 | GND (D) | | | | | |

GND
TC_HEAD+ 2
GND
GND

RESET 1

GND
X3FOR 2
ERA_CHK 4
CTLERA_L 1
CUE_EE 3
ATT2 3
CUE_MIX 3
+24V
-5V (D)
+5V (D)

GND
GND
GND
GND
GND
GND
GND
GND
GND
GND
GND

-5V (A)
+5V (A)
-12V (A)
+12V (A)
+15V
+8V
GND
GND

| P206 | B | S 3 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | GND (A) | | | | |
| 7 | CUE METER GND | P216-11B | | | |
| 8 | GND (A) | | | | |
| 9 | GND (A) | | | | |
| 10 | CUE GND | P230-2 | P230-5 | | |
| 11 | GND (A) | | | | |
| 12 | GND (A) | | | | |
| 13 | CUE LINE SIG C | P231-2 | | | |
| 14 | GND (A) | | | | |
| 15 | GND (A) | | | | |
| 16 | CUE D C | P216-16B | | | |
| 17 | GND (A) | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

GND
GND
GND
GND
GND
GND
GND
CUE_IN_C 3
GND
GND
CUE_D_C 3
GND

-5V (A)
+5V (A)
-12V (A)
+12V (A)
+15V
+8V
GND
GND

| P206 | C | S 3 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | GND (A) | | | | |
| 7 | CUE METER | P216-11C | | | |
| 8 | GND (A) | | | | |
| 9 | GND (A) | | | | |
| 10 | CUE SIG | P230-1 | P230-4 | | |
| 11 | GND (A) | | | | |
| 12 | GND (A) | | | | |
| 13 | CUE LINE SIG H | P231-1 | | | |
| 14 | GND (A) | | | | |
| 15 | GND (A) | | | | |
| 16 | CUE D H | P216-16C | | | |
| 17 | GND (A) | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

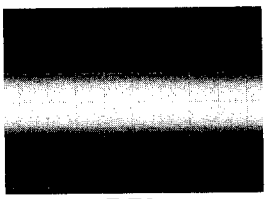
GND
CUEMETER 3
GND
GND
CUE_OUT 3
GND
GND
CUE_IN_H 3
GND
GND
CUE_D_H 3
GND

-5V (A)
+5V (A)
-12V (A)
+12V (A)
+15V
+8V
GND
GND

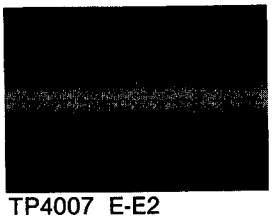
3 4 5 6

## NTSC

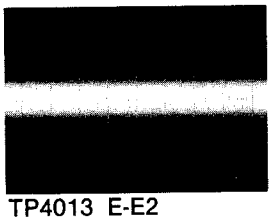
## S3 WAVEFORMS NTSC



TP4001 E-E2
20mV/20μsec. div.

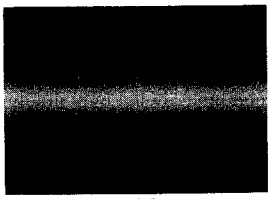


TP4007 E-E2
20mV/20μsec. div.

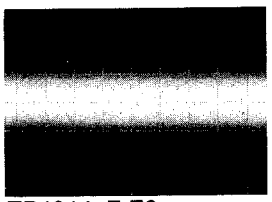


TP4013 E-E2
20mV/20μsec. div.

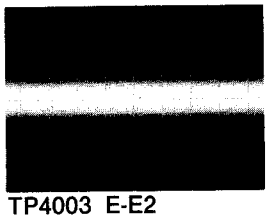
TP4002 E-E2
20mV/20μsec. div.



TP4008 E-E2
20mV/20μsec. div.

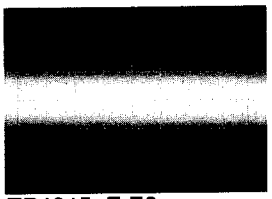


TP4014 E-E2
20mV/20μsec. div.

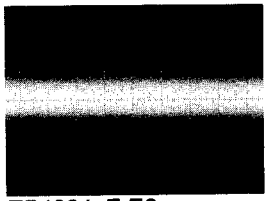


TP4003 E-E2
20mV/20μsec. div.

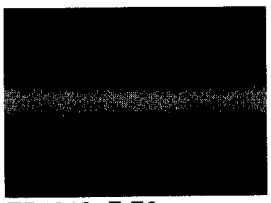
TP4009 E-E2
20mV/20μsec. div.



TP4015 E-E2
20mV/20μsec. div.

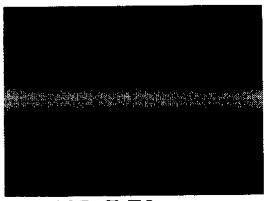


TP4004 E-E2
20mV/20μsec. div.

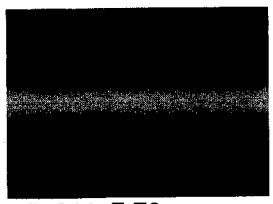


TP4010 E-E2
20mV/20μsec. div.

TP4016 E-E2
20mV/20μsec. div.

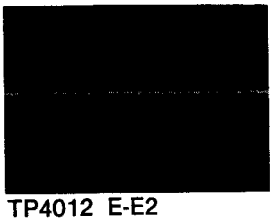


TP4005 E-E2
20mV/20μsec. div.



TP4011 E-E2
20mV/20μsec. div.

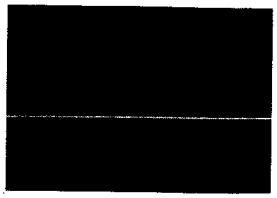
TP4006 E-E2
20mV/20μsec. div.



TP4012 E-E2
1V/20μsec. div.

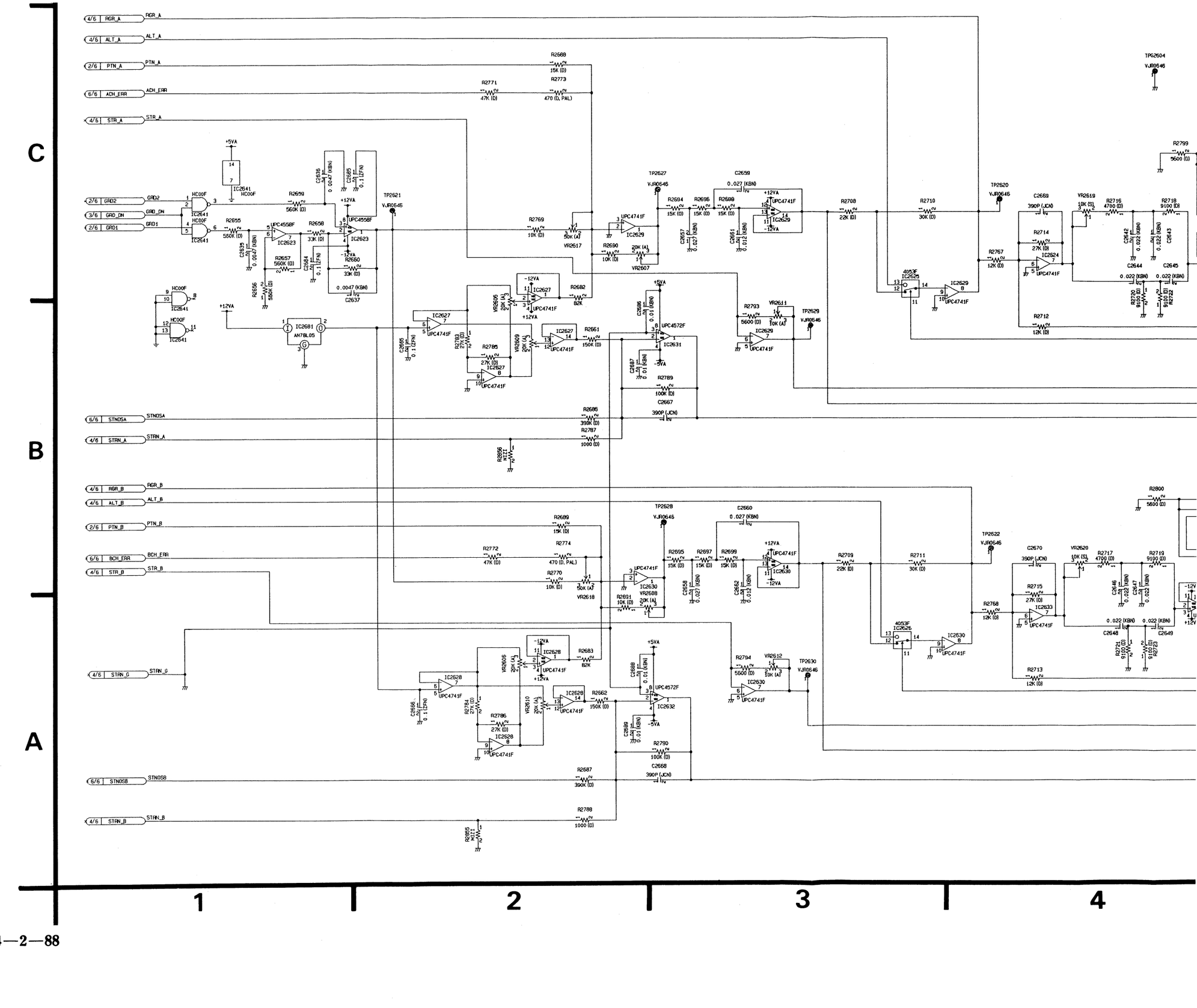
**PAL**

## S3 WAVEFORMS PAL



TP4001 E-E2
(TP4002 – TP4018)
1 V/20µsec. div.

# S4 AT (DRIVE) SCHEMATIC DIAGRAM (1/6)


C
B
A
1
2
3
4
RGR_A
ALT_A
PTN_A
ACH_ERR
STR_A
GRD2
GRD_DN
GRD1
STNOSA
STRN_A
RGR_B
ALT_B
PTN_B
BCH_ERR
STR_B
STRN_G
STNOSB
STRN_B
+5VA
+12VA
-12VA
-5VA
IC2641
HC00F
IC2623
IC2624
IC2625
IC2626
IC2627
IC2628
IC2629
IC2630
IC2631
IC2632
IC2633
IC2634
IC2681
AN78L05
UPC4558F
UPC4741F
UPC4572F
4053F
R2655
R2656
R2657
R2658
R2659
R2660
R2661
R2662
R2682
R2683
R2684
R2685
R2686
R2687
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R2771
R2772
R2773
R2774
R2785
R2786
R2787
R2788
R2789
R2790
R2793
R2794
R2799
R2800
VR2605
VR2606
VR2607
VR2608
VR2609
VR2610
VR2611
VR2612
VR2617
VR2618
VR2619
VR2620
C2635
C2636
C2637
C2638
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C2641
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TP2649
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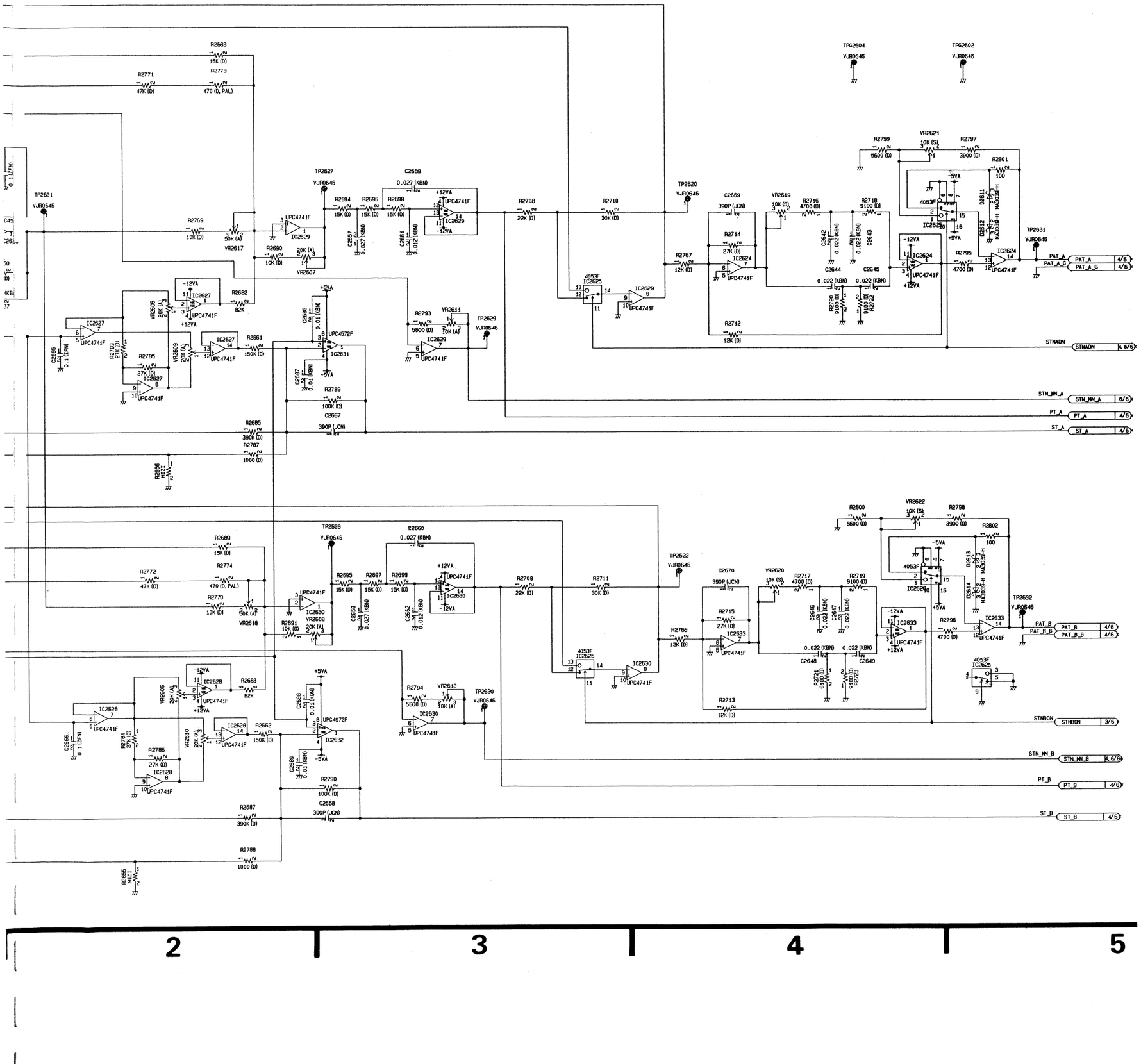
TP2652
TP2653
TP2654
TP2655
TP2656
TP2657
TP2658
TP2659

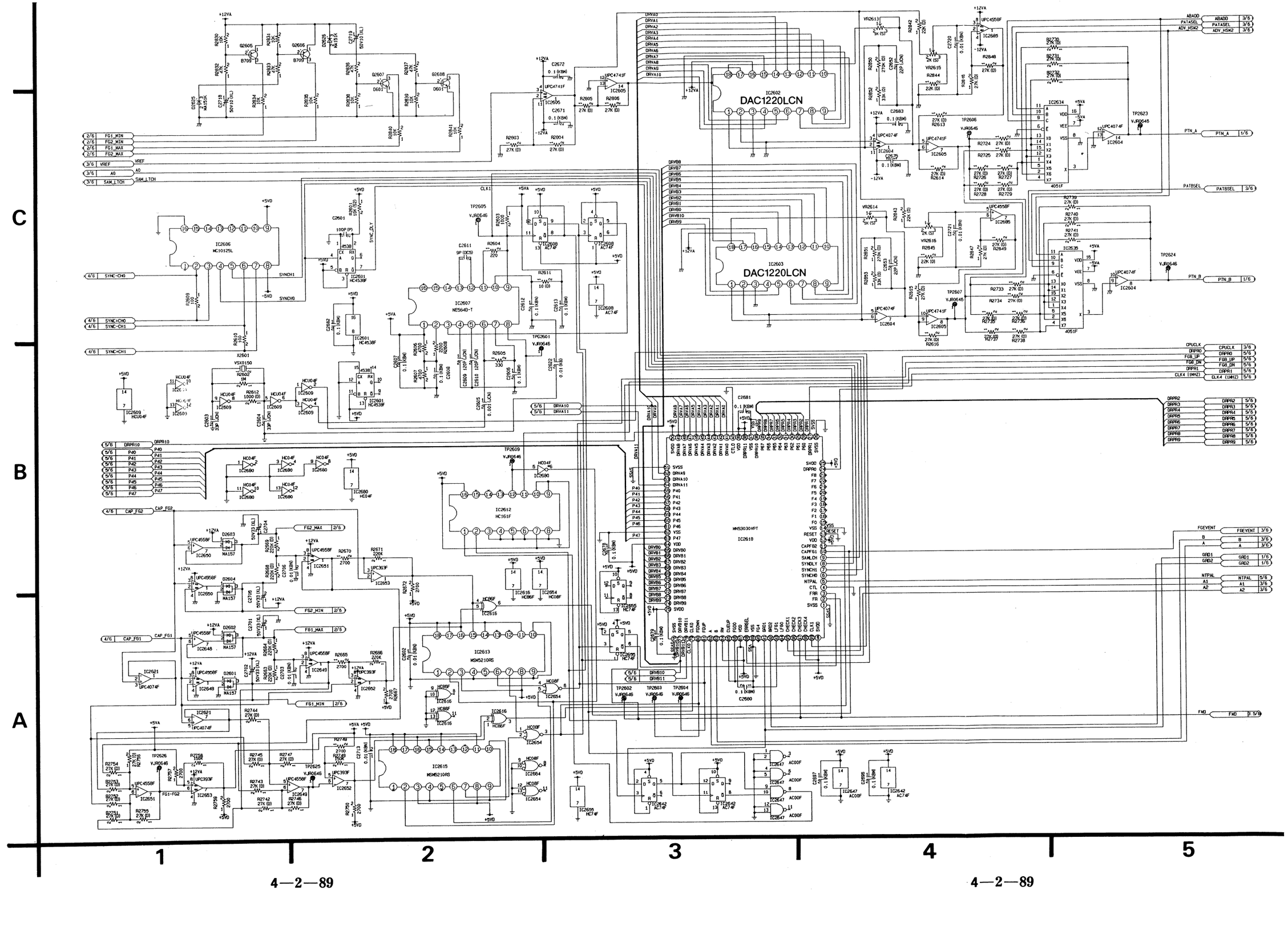
# GRAM (1/6)



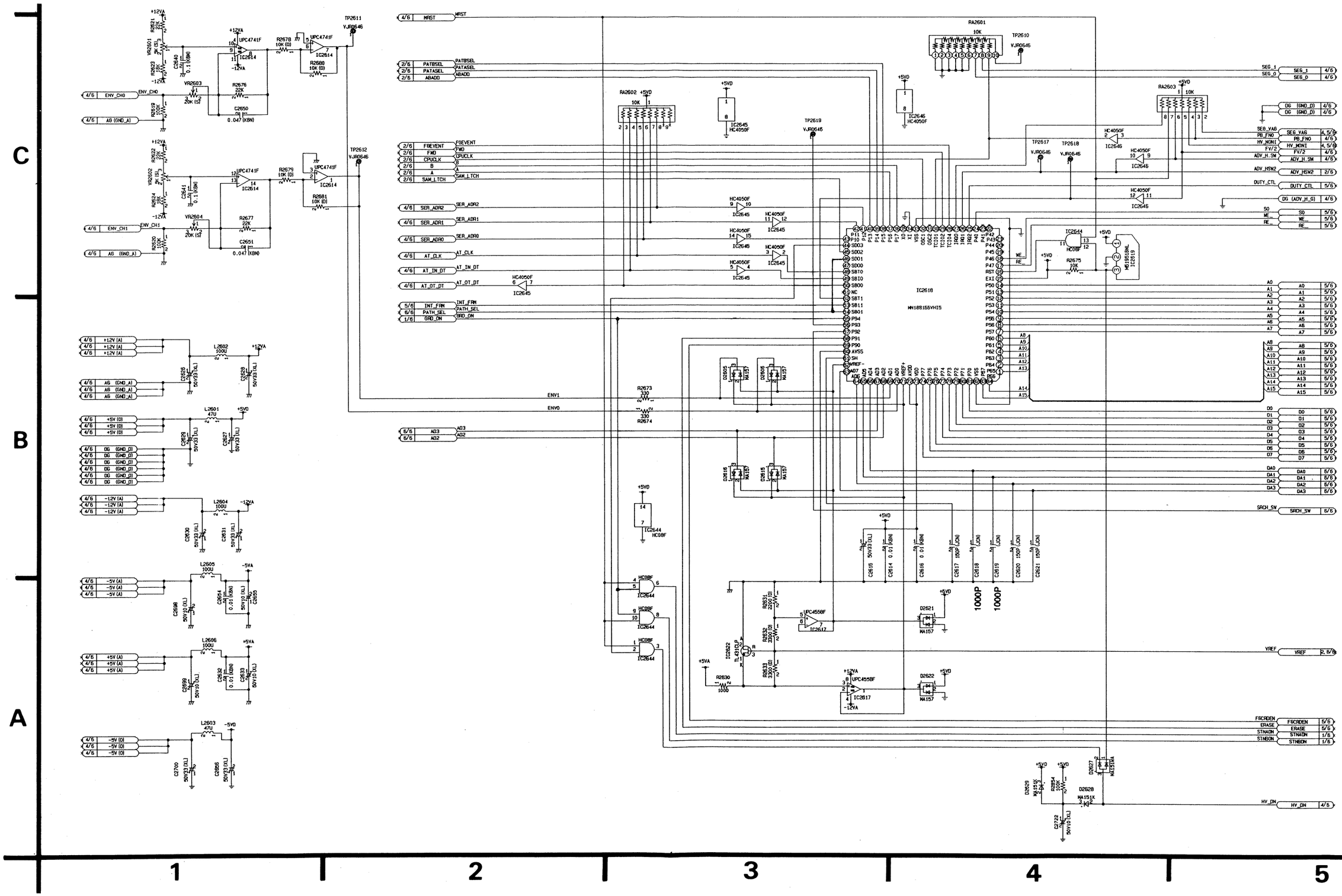

COMPARISON CHART BETWEEN
NTSC MODEL AND PAL MODEL
S4 AT P.C.B.

| REF. NO. | NTSC | PAL |
|---|---|---|
| IC2611 | VSI0894A | VSI0894B |
| IC2657 | VSI1084F | VSI1085F |
| | VEP82065C | VEP82065D |

# S4 AT SCHEMATIC DIAGRAM (2/6)



# S4 AT SCHEMATIC DIAGRAM (3/6)




4—2—90

4—2—90

# S4 AT (CONNECTOR) SCHEMATIC DIAGRAM (4/6) [S MOTHER (P207, P208) SCHEMATIC DIAGRAM (4/14) FOR S4]

| P207 | A | S 4 FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | GND (D) | | | | | DG |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | SEG-0 | P245-8B | | | | SEG_0 |
| 10 | PB_FN0 | P245-6B | | | | PB_FN0 |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | | | | | | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | STRN_B | | | | | STRN_B |
| 20 | PAT_A_G | | | | | PAT_A_G |
| 21 | PAT_B_G | | | | | PAT_B_G |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | | | | | | |
| 26 | | | | | | |
| 27 | | | | | | |
| 28 | -5V (D) | | | | | -5V (D) |
| 29 | +5V (D) | | | | | +5V (D) |
| 30 | +5V (D) | | | | | +5V (D) |
| 31 | GND (D) | | | | | DG |
| 32 | GND (D) | | | | | DG |

| P207 | B | S 4 FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | GND (D) | | | | | DG |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | SEG_1 | P245-7B | | | | SEG_1 |
| 10 | SEG_VAG | P245-5B | | | | SEG_VAG |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | FR_GATE | P209-15B | | | | FR_GATE |
| 16 | FV/2 | P209-16B | P245-7A | | | FV/2 |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | STRN_G | P290-2 | | | | STRN_G |
| 20 | PAT_A | P290-6 | | | | PAT_A |
| 21 | PAT_B | P290-8 | | | | PAT_B |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | | | | | | |
| 26 | | | | | | |
| 27 | | | | | | |
| 28 | -5V (D) | | | | | -5V (D) |
| 29 | +5V (D) | | | | | +5V (D) |
| 30 | +5V (D) | | | | | +5V (D) |
| 31 | GND (D) | | | | | DG |
| 32 | GND (D) | | | | | DG |

| P207 | C | |
|---|---|---|
| 1 | GND (D) | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | SYNC+CH0 | P229-1 |
| 10 | SYNC-CH0 | P229-2 |
| 11 | | |
| 12 | SYNC+CH1 | P229-4 |
| 13 | SYNC-CH1 | P229-5 |
| 14 | | |
| 15 | | |
| 16 | | |
| 17 | | |
| 18 | | |
| 19 | STRN_A | P290-1 |
| 20 | HV_MONI | P290-4 |
| 21 | HV_ON | P290-5 |
| 22 | | |
| 23 | | |
| 24 | | |
| 25 | | |
| 26 | | |
| 27 | | |
| 28 | -5V (D) | |
| 29 | +5V (D) | |
| 30 | +5V (D) | |
| 31 | GND (D) | |
| 32 | GND (D) | |

| P208 | A | S 4 FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | ENV_CH0 | P202-2A | P204-3A | | | ENV_CH0 |
| 3 | ENV_CH0_GND | P202-2C | | | | AG (ENV_CH0_GND) |
| 4 | ENV_CH1 | P204-2A | | | | ENV_CH1 |
| 5 | ENV_CH1_GND | P204-2C | | | | AG (ENV_CH1_GND) |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | | | | | | |
| 10 | AT_OT_DT | P210-10A | | | | AT_OT_DT |
| 11 | ADV_H_SW | P210-11A | | | | ADV_H.SW |
| 12 | ADV_H_SW_GND | P210-12A | | | | DG (ADV_H.SW_GND) |
| 13 | CAP_FB | P210-13A | | | | CAP_FB |
| 14 | CAP_FB_G | P210-14A | | | | CAP_FB_G |
| 15 | | | | | | |
| 16 | CAP F/R | P210-16A | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | | | | | |
| 20 | | | | | | |
| 21 | | | | | | |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | -5V (A) | | | | | -5V (A) |
| 26 | +5V (A) | | | | | +5V (A) |
| 27 | -12V (A) | | | | | -12V (A) |
| 28 | +12V (A) | | | | | +12V (A) |
| 29 | +15V (un) | | | | | +15V |
| 30 | +8V (un) | | | | | +8V |
| 31 | GND (A) | | | | | AG |
| 32 | GND (A) | | | | | AG |

| P208 | B | S 4 FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | AC_CTL | P210-5A | P212-5A | | | AC_CTL |
| 8 | | | | | | |
| 9 | | | | | | |
| 10 | AT_IN_DT | P210-10B | | | | AT_IN_DT |
| 11 | REC_H_SW | P210-11B | P251-13B | | | |
| 12 | REC_H_SW_GND | P210-12B | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | | | | | | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | | | | | |
| 20 | | | | | | |
| 21 | | | | | | |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | -5V (A) | | | | | -5V (A) |
| 26 | +5V (A) | | | | | +5V (A) |
| 27 | -12V (A) | | | | | -12V (A) |
| 28 | +12V (A) | | | | | +12V (A) |
| 29 | +15V (un) | | | | | +15V |
| 30 | +8V (un) | | | | | +8V |
| 31 | GND (A) | | | | | AG |
| 32 | GND (A) | | | | | AG |

| P208 | C | |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | SER_ADR0 | P214-6B |
| 7 | SER_ADR1 | P214-7B |
| 8 | SER_ADR2 | P214-8B |
| 9 | | |
| 10 | AT_CLK | P210-10C |
| 11 | CNF_H_SW | P210-11C |
| 12 | CNF_H_SW_GND | P210-12C |
| 13 | CNF_H | P210-13C |
| 14 | CAP_FG_1 | P210-14C |
| 15 | | |
| 16 | CAP_FG_2 | P210-16C |
| 17 | | |
| 18 | REC ENV CH0 | P235-1 |
| 19 | REC ENV CH0 GND | P235-2 |
| 20 | REC ENV CH1 | P235-3 |
| 21 | REC ENV CH1 GND | P235-4 |
| 22 | MAST | P213-20A |
| 23 | | |
| 24 | | |
| 25 | -5V (A) | |
| 26 | +5V (A) | |
| 27 | -12V (A) | |
| 28 | +12V (A) | |
| 29 | +15V (un) | |
| 30 | +8V (un) | |
| 31 | GND (A) | |
| 32 | GND (A) | |

C B A

1 2 3 4 5

# I (4/6) [S MOTHER (P207, P208) SCHEMATIC DIAGRAM (4/14) FOR S4]

| P207 | B | S 4 FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | GND (D) | | | | | DG |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | SEG_1 | P245-7B | | | | SEG_1 |
| 10 | SEG_VAG | P245-5B | | | | SEG_VAG |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | FR_GATE | P209-15B | | | | FR_GATE |
| 16 | FV/2 | P209-16B | P245-7A | | | FV/2 |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | STRN_G | P290-2 | | | | STRN_G |
| 20 | PAT_A | P290-6 | | | | PAT_A |
| 21 | PAT_B | P290-8 | | | | PAT_B |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | | | | | | |
| 26 | | | | | | |
| 27 | | | | | | |
| 28 | -5V (D) | | | | | -5V (D) |
| 29 | +5V (D) | | | | | +5V (D) |
| 30 | +5V (D) | | | | | +5V (D) |
| 31 | GND (D) | | | | | DG |
| 32 | GND (D) | | | | | DG |

| P207 | C | S 4 FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | GND (D) | | | | | DG |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | SYNC+CH0 | P229-1 | | | | SYNC+CH0 |
| 10 | SYNC-CH0 | P229-2 | | | | SYNC-CH0 |
| 11 | | | | | | |
| 12 | SYNC+CH1 | P229-4 | | | | SYNC+CH1 |
| 13 | SYNC-CH1 | P229-5 | | | | SYNC-CH1 |
| 14 | | | | | | |
| 15 | | | | | | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | STRN_A | P290-1 | | | | STRN_A |
| 20 | HV_MONI | P290-4 | | | | HV_MONI |
| 21 | HV_ON | P290-5 | | | | HV_ON |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | | | | | | |
| 26 | | | | | | |
| 27 | | | | | | |
| 28 | -5V (D) | | | | | -5V (D) |
| 29 | +5V (D) | | | | | +5V (D) |
| 30 | +5V (D) | | | | | +5V (D) |
| 31 | GND (D) | | | | | DG |
| 32 | GND (D) | | | | | DG |

P2602
VJS1435 (6)

| | | |
|---|---|---|
| 1 | ST_A | ST_A |
| 2 | PT_A | PT_A |
| 3 | STR_A | STR_A |
| 4 | ALT_A | ALT_A |
| 5 | RGR_A | RGR_A |
| 6 | STN_MN_A | STN_MN_A |

P2603
VJS1435 (7)

| | | |
|---|---|---|
| 1 | -5VA | -5VA |
| 2 | ST_B | ST_B |
| 3 | ALT_B | ALT_B |
| 4 | RGR_B | RGR_B |
| 5 | PT_B | PT_B |
| 6 | STN_MN_B | STN_MN_B |
| 7 | STR_B | STR_B |

| P208 | B | S 4 FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | AC_CTL | P210-5A | P212-5A | | | AC_CTL |
| 8 | | | | | | |
| 9 | | | | | | |
| 10 | AT_IN_DT | P210-10B | | | | AT_IN_DT |
| 11 | REC_H_SW | P210-11B | P251-13B | | | |
| 12 | REC_H_SW_GND | P210-12B | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | | | | | | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | | | | | |
| 20 | | | | | | |
| 21 | | | | | | |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | -5V (A) | | | | | -5V (A) |
| 26 | +5V (A) | | | | | +5V (A) |
| 27 | -12V (A) | | | | | -12V (A) |
| 28 | +12V (A) | | | | | +12V (A) |
| 29 | +15V (un) | | | | | +15V |
| 30 | +8V (un) | | | | | +8V |
| 31 | GND (A) | | | | | AG |
| 32 | GND (A) | | | | | AG |

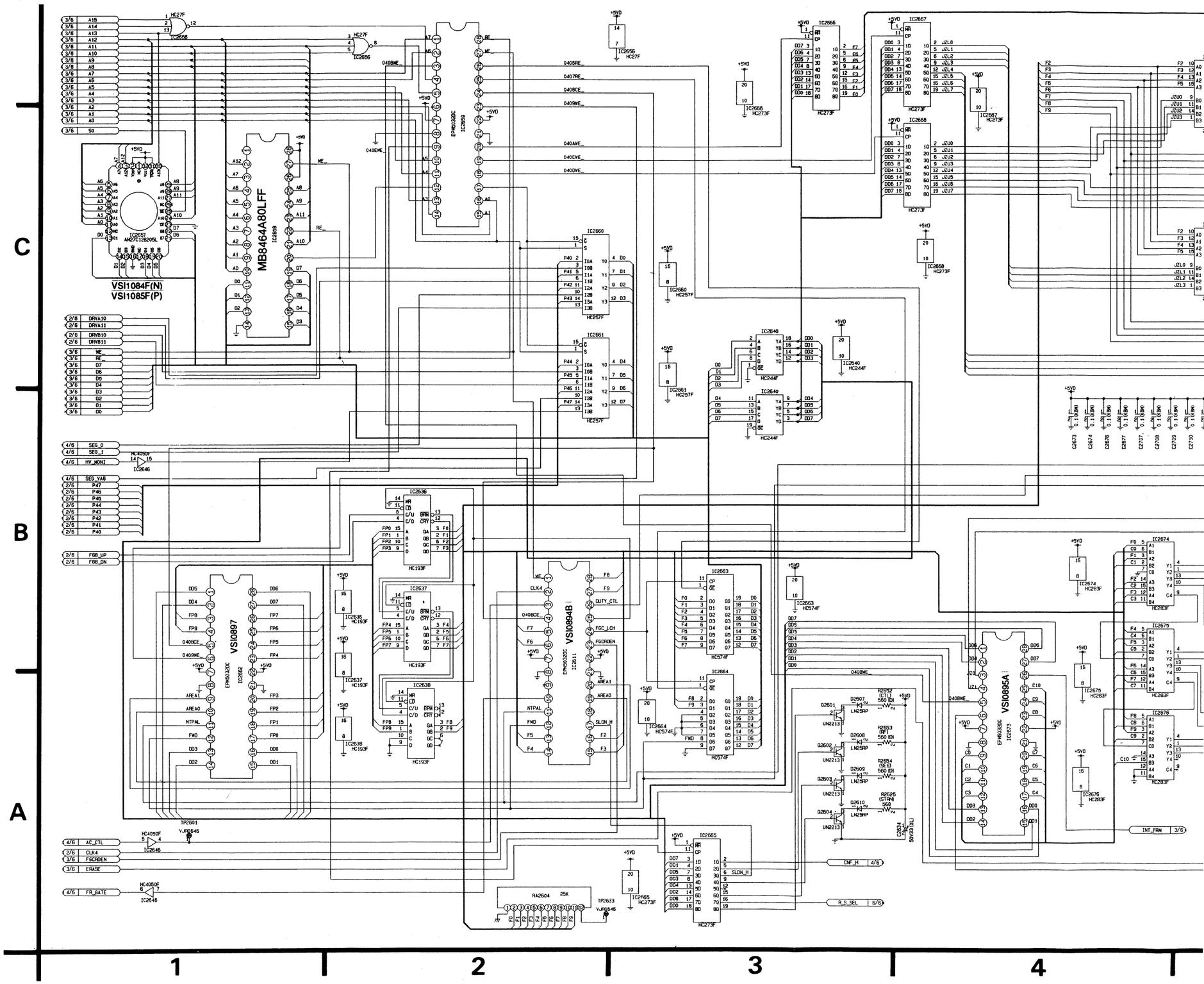
| P208 | C | S 4 FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | SER_ADR0 | P214-6B | P210-6B | | | SER_ADR0 |
| 7 | SER_ADR1 | P214-7B | P210-7B | | | SER_ADR1 |
| 8 | SER_ADR2 | P214-8B | P210-8B | | | SER_ADR2 |
| 9 | | | | | | |
| 10 | AT_CLK | P210-10C | | | | AT_CLK |
| 11 | CNF_H_SW | P210-11C | | | | |
| 12 | CNF_H_SW_GND | P210-12C | | | | |
| 13 | CNF_H | P210-13C | | | | CNF_H |
| 14 | CAP_FG_1 | P210-14C | | | | CAP_FG1 |
| 15 | | | | | | |
| 16 | CAP_FG_2 | P210-16C | | | | CAP_FG2 |
| 17 | | | | | | |
| 18 | REC ENV CH0 | P235-1 | P201-24A | P210-19B | | REC_E_0 (REC_ENV_CH0) |
| 19 | REC ENV CH0 GND | P235-2 | P201-25A | P210-19C | | REC_E_0G (REC_ENV_CH0_GND) |
| 20 | REC ENV CH1 | P235-3 | P201-24C | P210-22A | | REC_E_1 (REC_ENV_CH1) |
| 21 | REC ENV CH1 GND | P235-4 | P201-25C | P210-23A | | REC_E_1G (REC_ENV_CH1_GND) |
| 22 | MRST | P213-20A | | | | MRST |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | -5V (A) | | | | | -5V (A) |
| 26 | +5V (A) | | | | | +5V (A) |
| 27 | -12V (A) | | | | | -12V (A) |
| 28 | +12V (A) | | | | | +12V (A) |
| 29 | +15V (un) | | | | | +15V |
| 30 | +8V (un) | | | | | +8V |
| 31 | GND (A) | | | | | AG |
| 32 | GND (A) | | | | | AG |

P2604
VJS1435 (6)

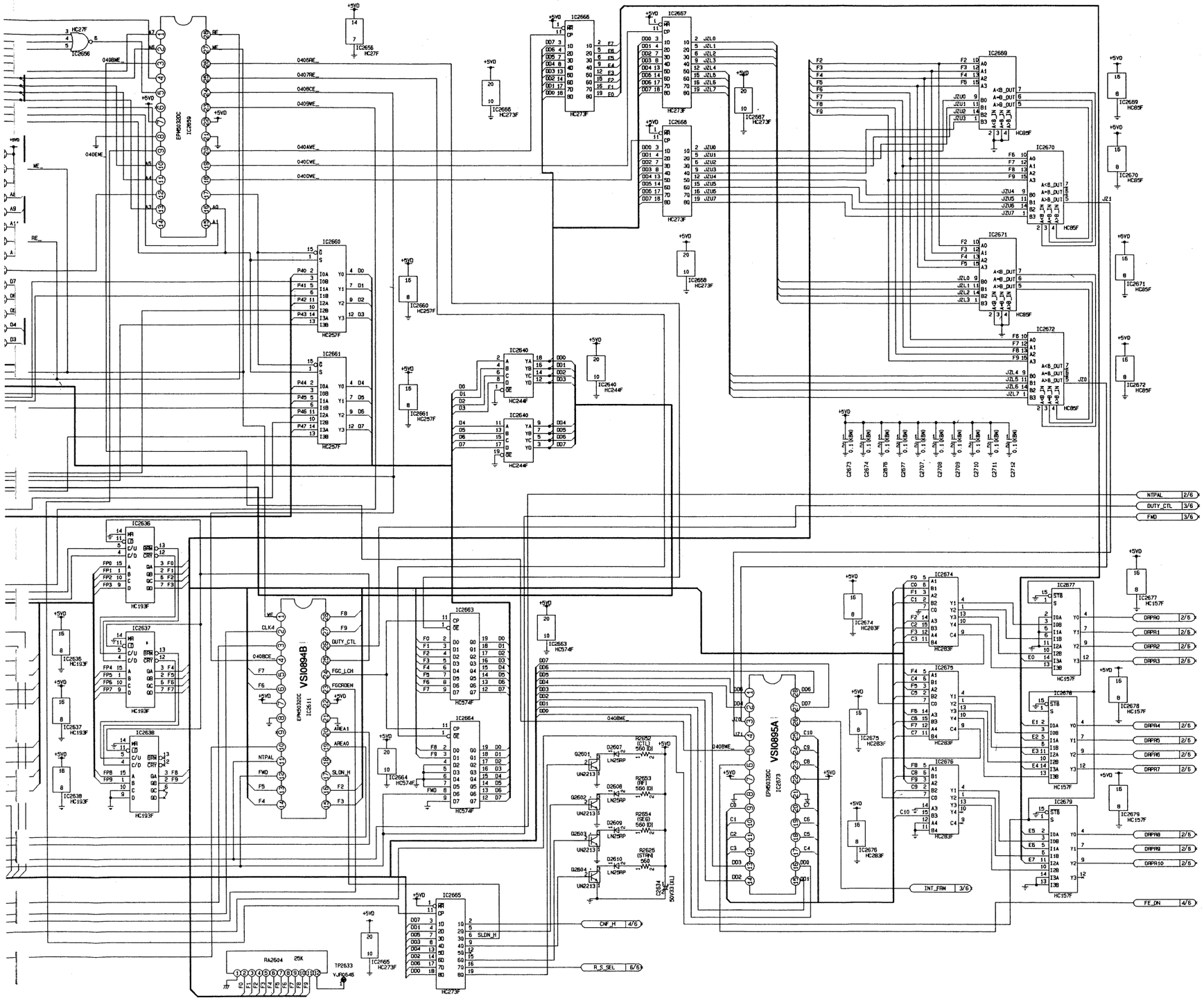
| | | |
|---|---|---|
| 1 | +5VA | +5VA |
| 2 | AG | AG |
| 3 | +5VD | +5VD |
| 4 | DG | DG |
| 5 | ADV_HSW2 | ADV_HSW2 |
| 6 | FE_ON | FE_ON |

2 3 4 5 6

# S4 AT (EX) SCHEMATIC DIAGRAM (5/6)



# DIAGRAM (5/6)




2 3 4 5

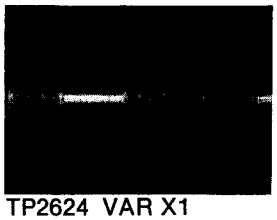
NTSC

## S4 WAVEFORMS NTSC

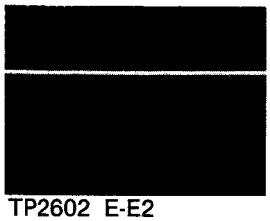
TP2601 VAR X1
2V/5msec. div

TP2610
VAR X1
2V/10msec. div.

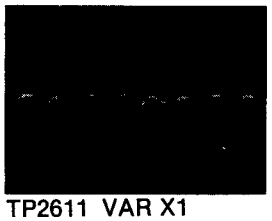
TP2618 VAR X1
2V/5msec. div.



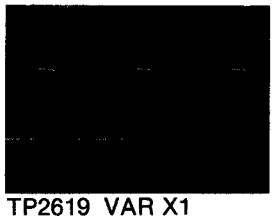
TP2624 VAR X1
500mV/5msec. div.



TP2602 E-E2
(TP2603, TP2604)
5V/1msec. div

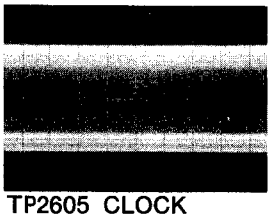


TP2611 VAR X1
500mV/5msec. div.



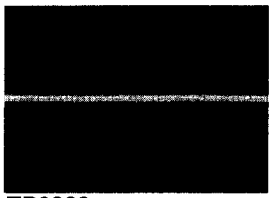
TP2619 VAR X1
2V/10msec. div.

TP2625 VAR X1
1V/100μsec. div.



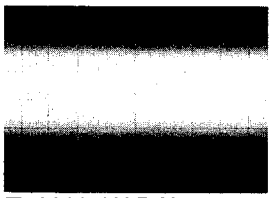
TP2605 CLOCK
1V/20μsec. div.

TP2612 VAR X1
500mV/5msec. div.



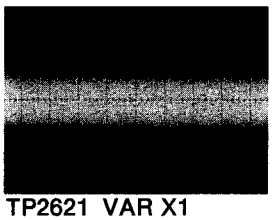
TP2620
VAR X1
500mV/1msec. div.

TP2626 VAR X1
1V/100μsec. div.



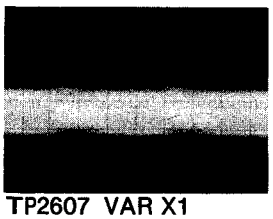
TP2606 VAR X1
50mV/50μsec. div.

TP2013 VAR X1
(TP2014)
1V/10msec. div.

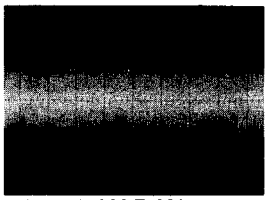


TP2621 VAR X1
50mV/200μsec. div.

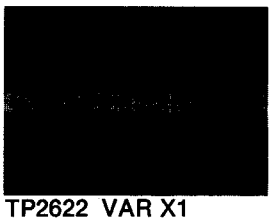
TP2627 VAR X1
500mV/1msec. div.



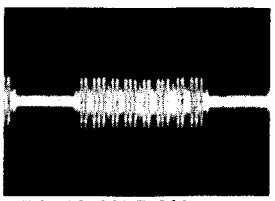
TP2607 VAR X1
200mV/200μsec. div.



TP2615 VAR X1
100mV/100μsec. div.

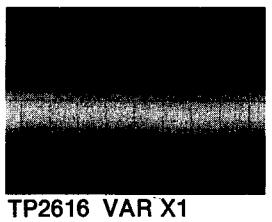


TP2622 VAR X1
50mV/200μsec. div.

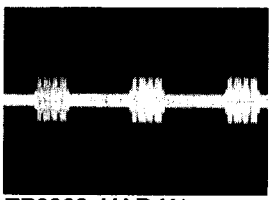


TP2628 VAR X1
500mV/5msec. div.

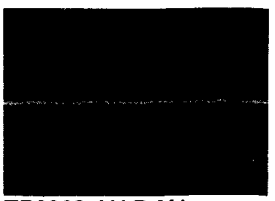
TP2609 VAR X1
2V/200nsec. div.



TP2616 VAR X1
50mV/20μsec. div.



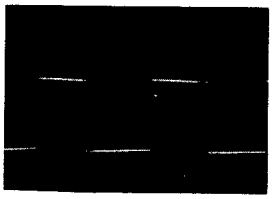
TP2623 VAR X1
500mV/10msec. div.



TP2629 VAR X1
(TP2630, TP2631, TP2632)
1V/5msec. div.

PAL

## S4 WAVEFORMS PAL

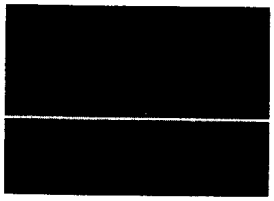


TP2601 VAR X0.52
2V/5msec. div.

TP2611 VAR X0.52
(TP2612)
500mV/5msec. div.

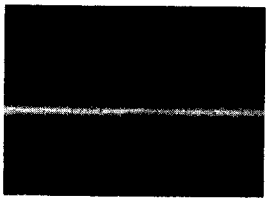
TP2620 VAR X0.52
(TP2622)
1V/10msec. div.

TP2633 VAR X0.52
2V/20msec. div.

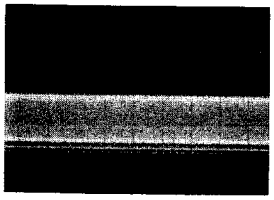


TP2602 VAR X0.52
(TP2603, TP2604)
1V/20µsec. div.

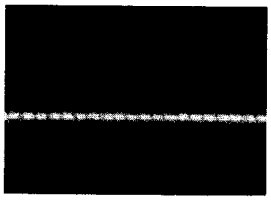
TP2613 VAR X0.52
(TP2614)
1V/10msec. div.



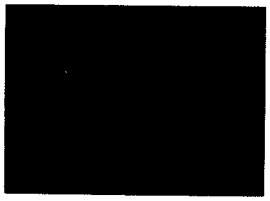
TP2621 VAR X0.52
20mV/20µsec. div.



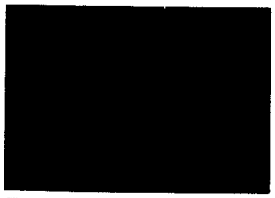
TP2605 VAR X0.52
500mV/20µsec. div.



TP2615 VAR X0.52
(TP2616)
200mV/20µsec. div.

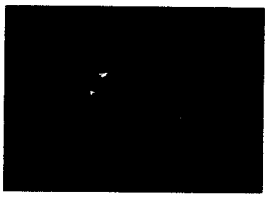


TP2623 VAR X0.52
(TP2624)
1V/10msec. div.

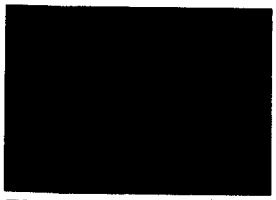


TP2606 VAR X0.52
(TP2607)
1V/10msec. div.

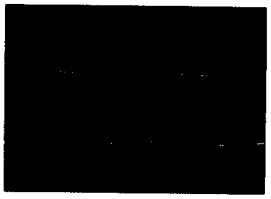
TP2617 VAR X0.52
2V/5msec. div.



TP2625 VAR X0.52
(TP2626)
2V/200µsec. div.

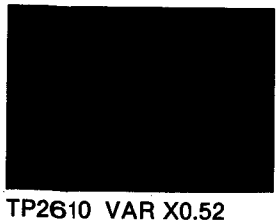


TP2609 VAR X0.52
2V/10µsec. div.

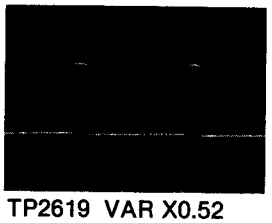


TP2618 VAR X0.52
2V/10msec. div.

TP2627 VAR X0.52
(TP2628)
1V/10msec. div.



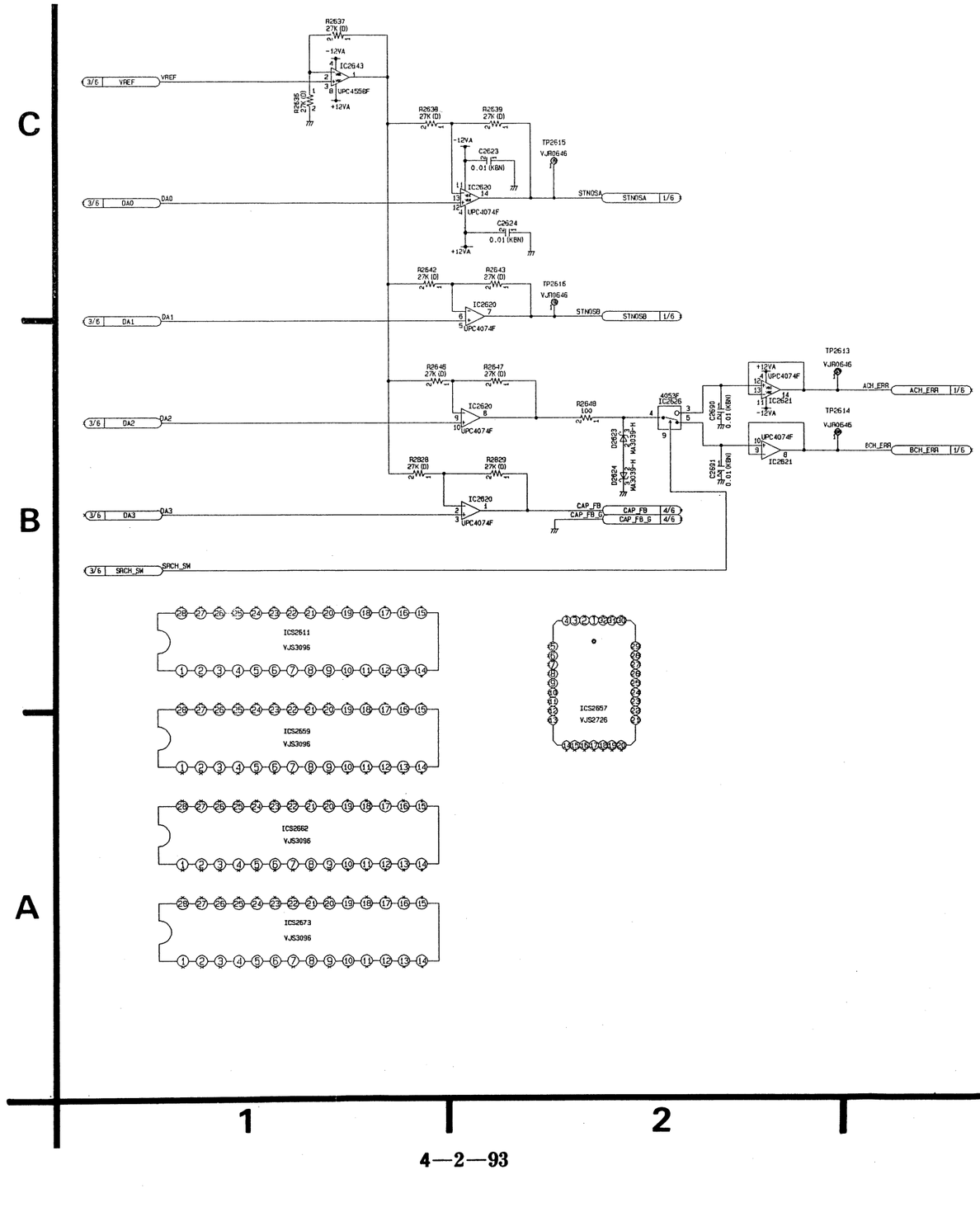
TP2610 VAR X0.52
2V/10msec. div.



TP2619 VAR X0.52
2V/10msec. div.

TP2629 VAR X0.52
(TP2630, TP2631, TP2632)
1V/10msec. div.

# S4 AT SCHEMATIC DIAGRAM (6/6)

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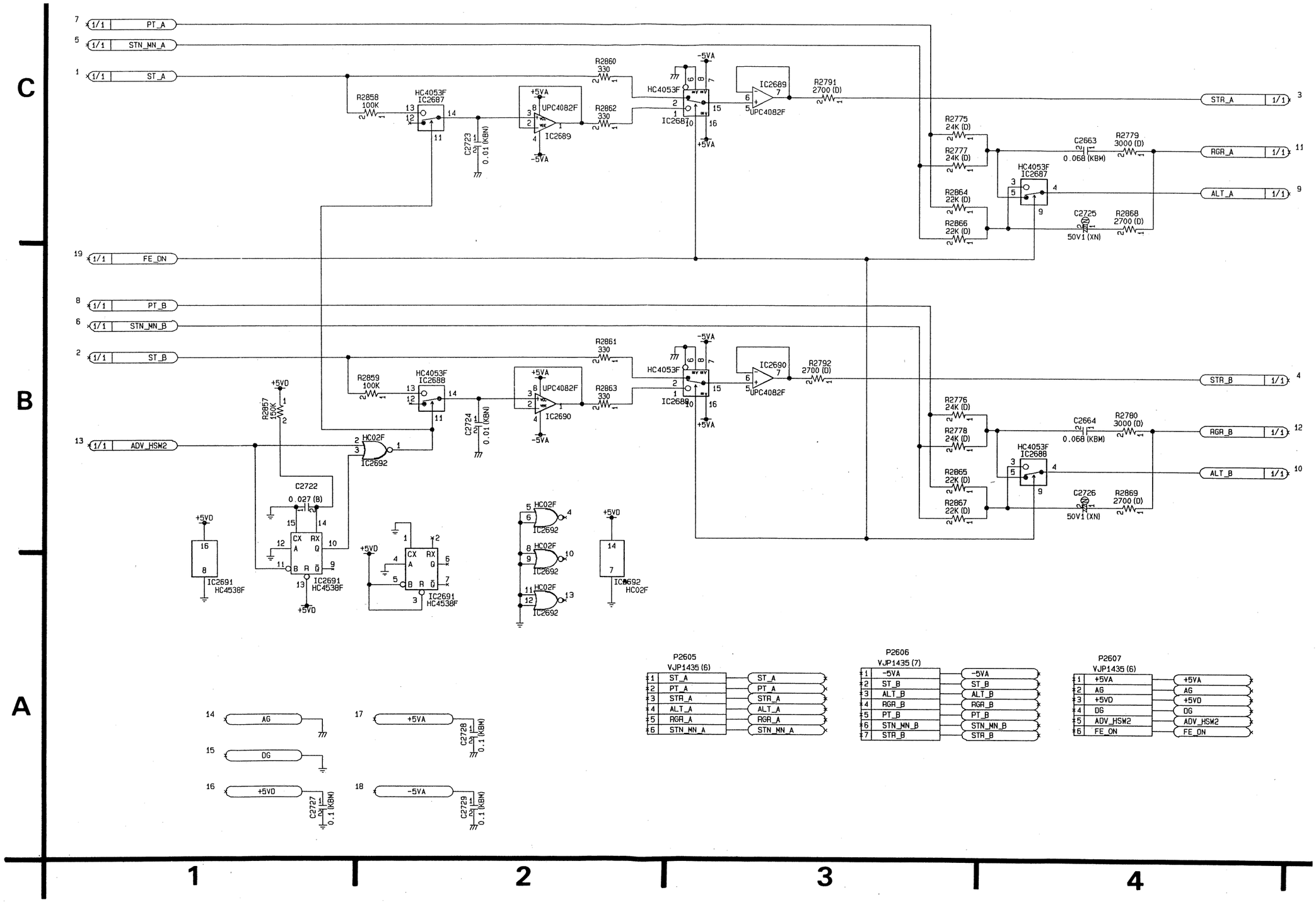
# S4 AT SUB SCHEMATIC DIAGRAM



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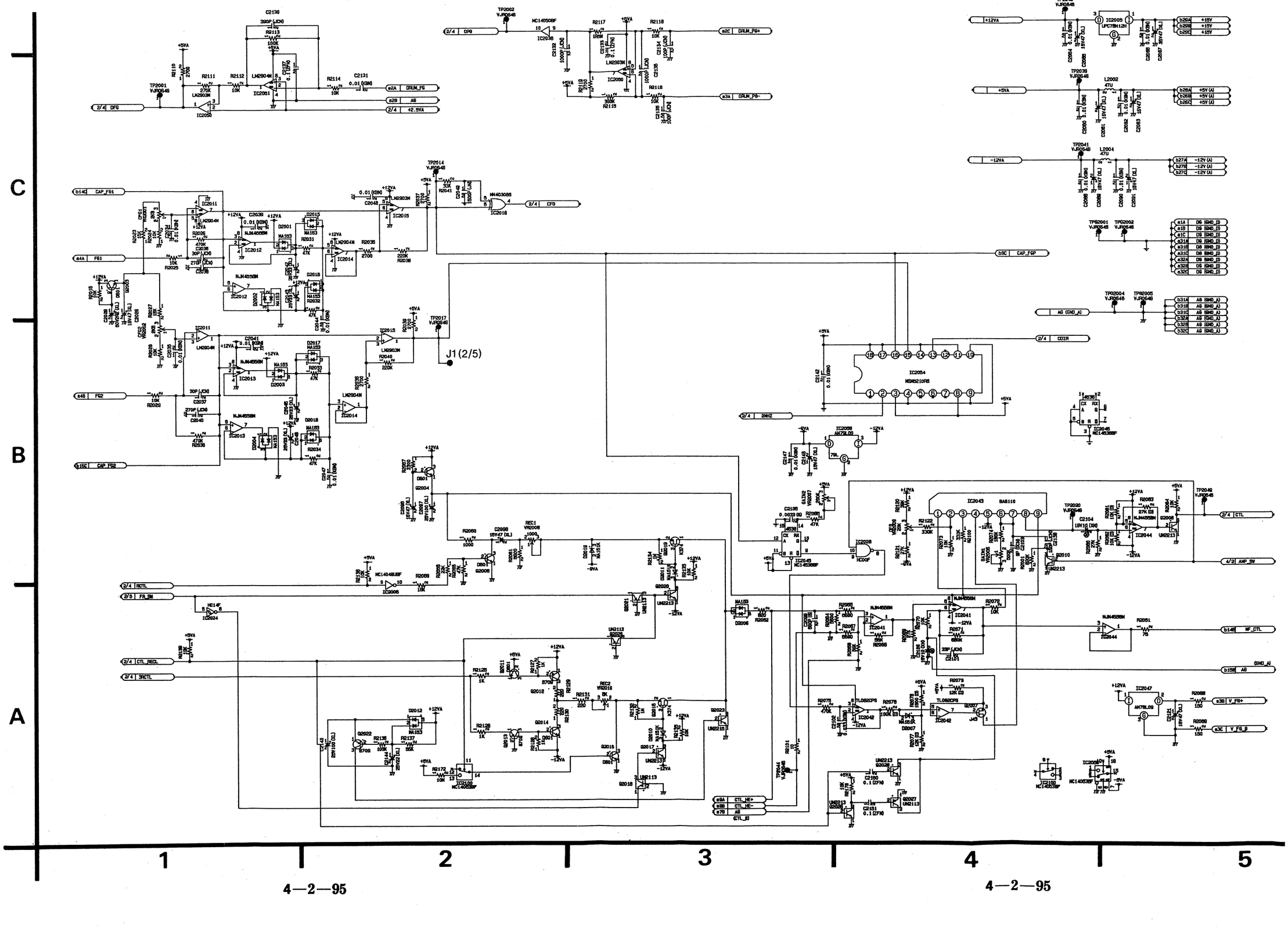
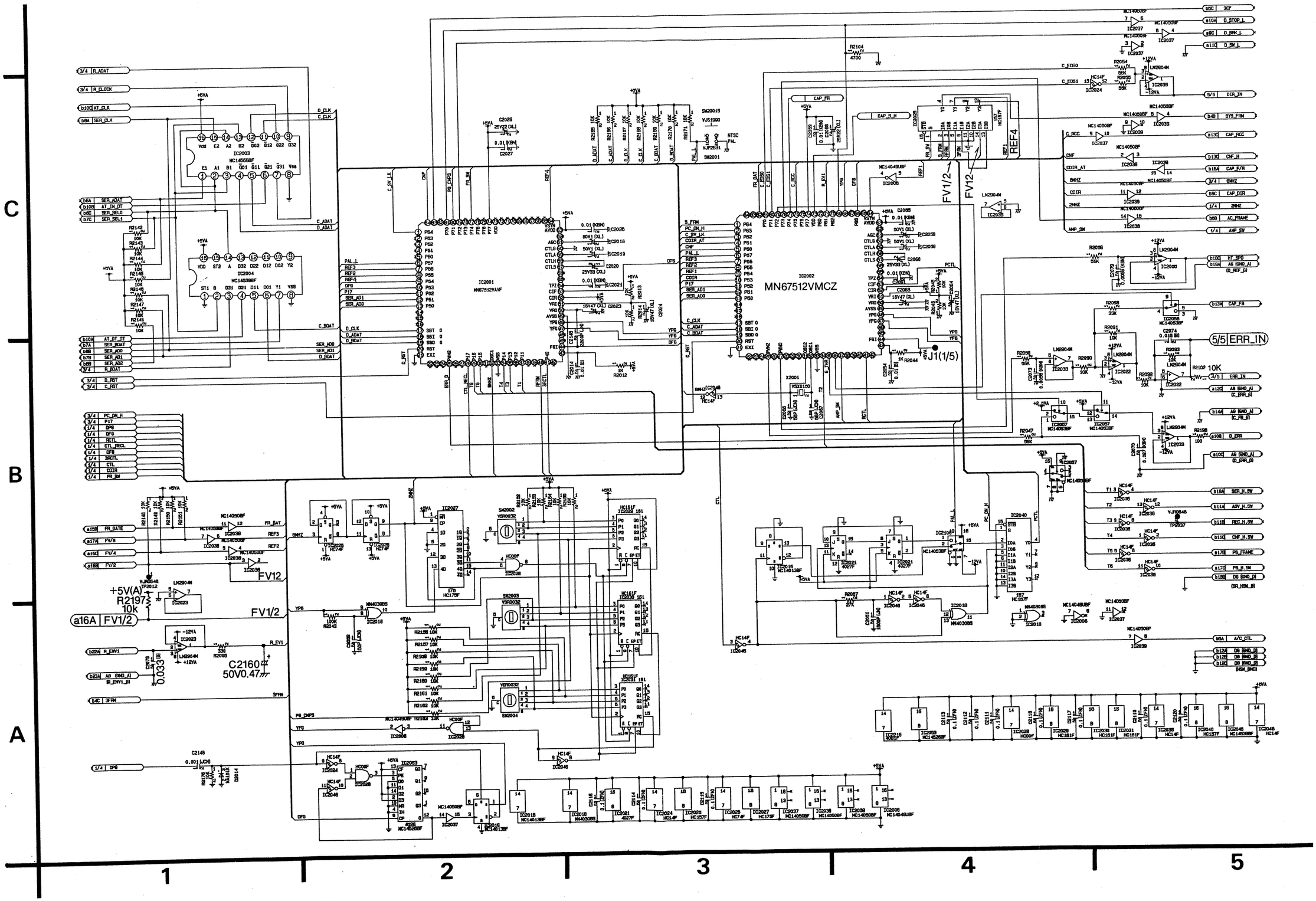
# S5 SERVO SCHEMATIC DIAGRAM (1/4)

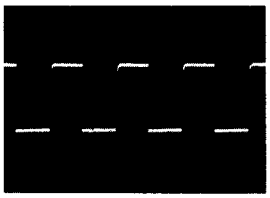


# S5 SERVO SCHEMATIC DIAGRAM (2/4)

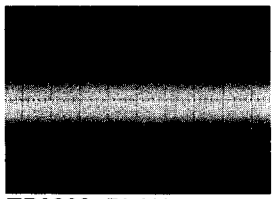


## NTSC

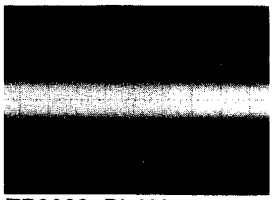
## S5 WAVEFORMS NTSC



TP2001 PLAY
2V/200μsec. div.

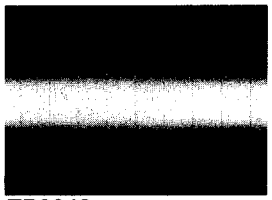


TP2039 PLAY
50mV/50μsec. div.

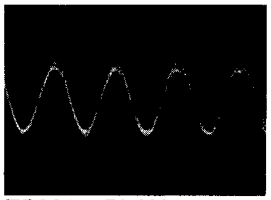


TP2203 PLAY
(TP2204–TP2210)
50mV/20μsec. div.

TP2012 PLAY
2V/10msec. div.

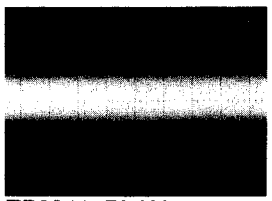


TP2040
PLAY
50mV/50μsec. div.

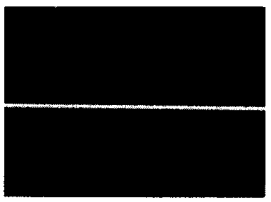


TP2211 PLAY
(TP2212, TP2213, TP2214)
1V/2msec. div.

TP2014 PLAY
2V/200μsec. div.



TP2041 PLAY
(TP2044)
50mV/20μsec. div.

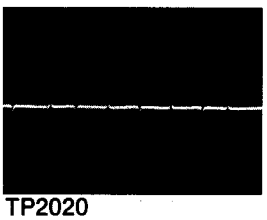


TP2215 PLAY
1V/100μsec. div.

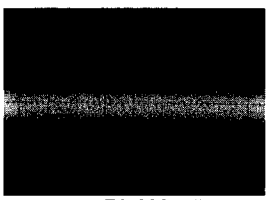
TP2017 PLAY
2V/100μsec. div.

TP2049 PLAY
2V/5msec. div.

TP2216 PLAY
(TP2217, TP2218, TP2219)
2V/2msec. div.

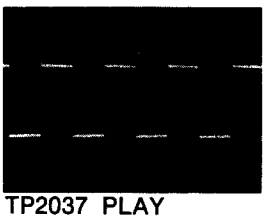


TP2020
PLAY
5V/5msec. div.



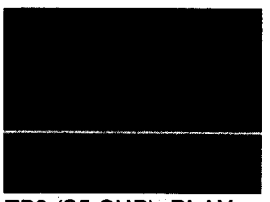
TP2201 PLAY
50mV/20μsec. div.

TP2220
PLAY
(TP2221)
2V/2msec. div.



TP2037 PLAY
2V/5msec. div.

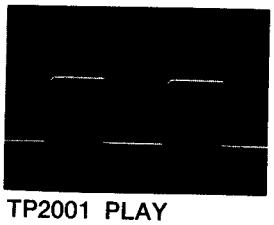
TP2202 PLAY
50mV/20μsec. div.



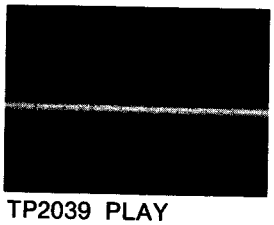
TP3 (S5 SUB) PLAY
2V/10msec. div.

**PAL**

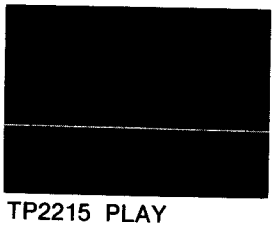
## S5 WAVEFORMS PAL



TP2001 PLAY
2V/100µsec. div.

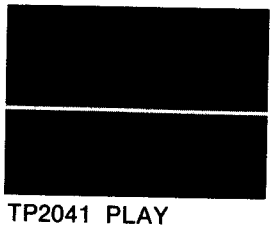


TP2039 PLAY
(TP2040)
50mV/20µsec. div.

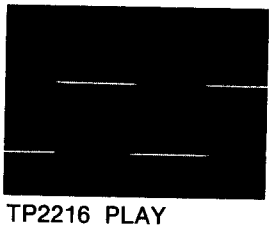


TP2215 PLAY
1V/100µsec. div.

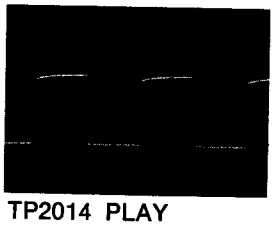
TP2012 PLAY
2V/10msec. div.



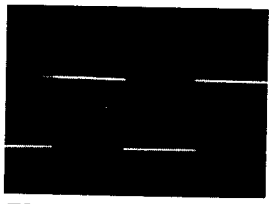
TP2041 PLAY
(TP2044)
50mV/20µsec. div.



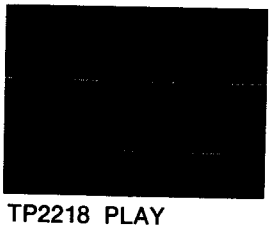
TP2216 PLAY
(TP2217)
2V/1msec. div.



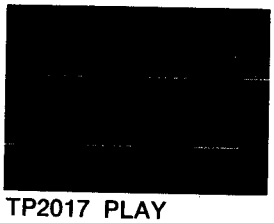
TP2014 PLAY
2V/100µsec. div.



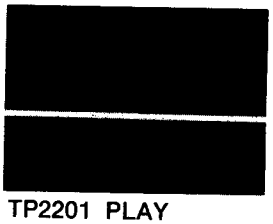
TP2049 PLAY
2V/2msec. div.



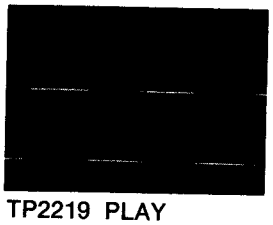
TP2218 PLAY
(TP2220)
2V/2msec. div.



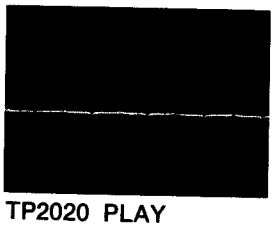
TP2017 PLAY
2V/100µsec. div.



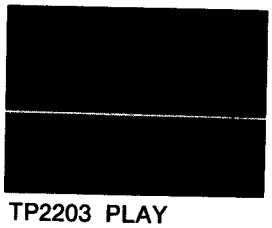
TP2201 PLAY
(TP2202)
100mV/20µsec. div.



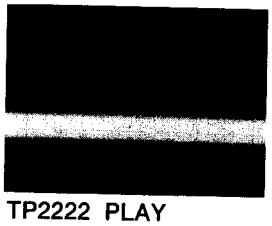
TP2219 PLAY
(TP2221)
2V/1msec. div.



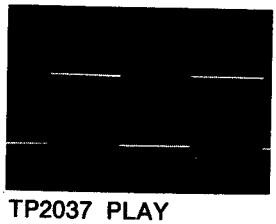
TP2020 PLAY
5V/5msec. div.



TP2203 PLAY
(TP2204–TP2210)
100mV/20µsec. div.



TP2222 PLAY
(TP2223–TP2226)
20mV/20µsec. div.



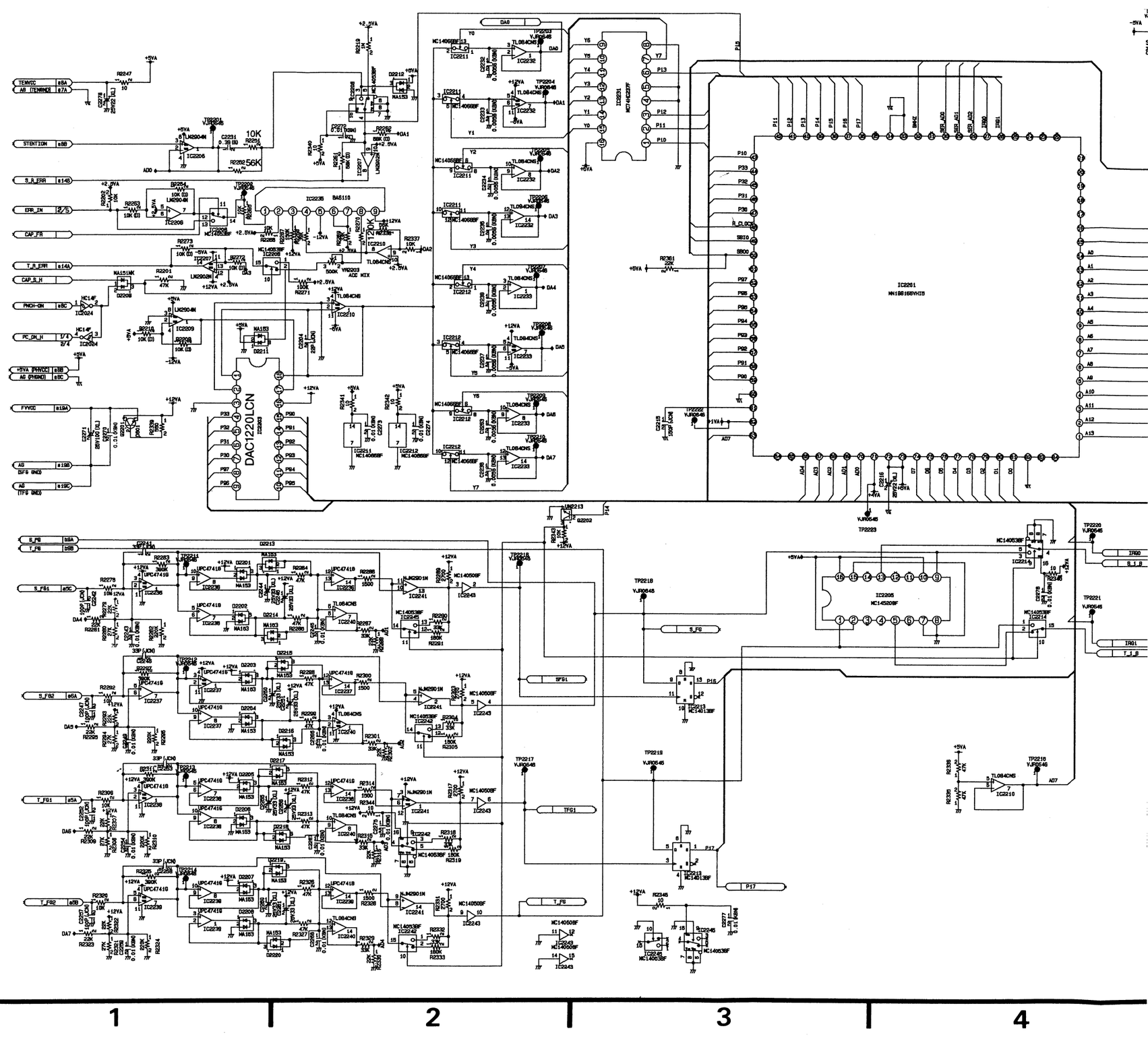
TP2037 PLAY
2V/2msec. div.

TP2211 PLAY
(TP2212, TP2213, TP2214)
1V/2msec. div.

# S5 SERVO (REEL) SCHEMATIC DIAGRAM (3/4)

COMPARISON CHART BETWEEN
NTSC MODEL AND PAL MODEL
S5 SERVO P.C.B.

| REF. NO. | NTSC | PAL |
|---|---|---|
| IC2202 | VSI1155J<br><br>VEP82067D | VSI1083L<br><br>VEP82067E |

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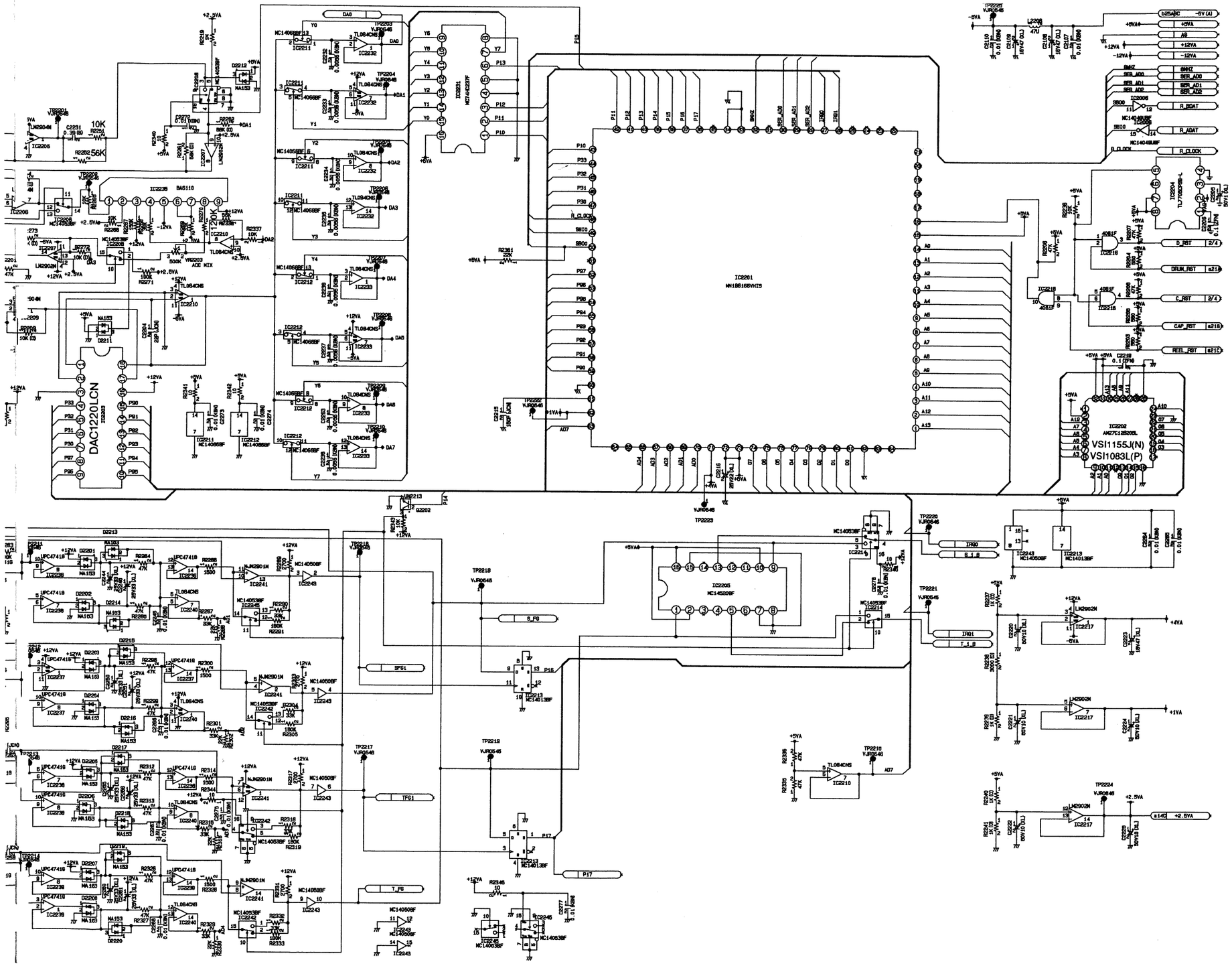
# CHEMATIC DIAGRAM (3/4)


IC2201
MN188168VH15
DAC1220LCN
VSI1155J(N)
VSI1083L(P)
IC2205
MC145208F
IC2204
TLI7705CDB-L
IC2202
AM27C1282DDL
IC2206
LA2804M
IC2207
LA2805M
IC2208
BA5110
IC2209
LM2902M
IC2210
TL084CNS
IC2211
MC14066BF
IC2212
MC14066BF
IC2213
MC14013BF
IC2214
MC14053BF
IC2215
MC14050BF
IC2216
4081F
IC2217
LM2902M
IC2218
4081F
IC2220
MC14053BF
IC2221
MC14053BF
IC2222
MC14053BF
IC2223
MC14053BF
IC2224
MC14050BF
IC2225
MC14050BF
IC2226
MC14050BF
IC2227
MC14050BF
IC2228
MC14050BF
IC2229
MC14050BF
IC2230
MC14050BF
IC2231
MC74HC237F
IC2232
TL084CNS
IC2233
TL084CNS
IC2234
TL084CNS
IC2235
TL084CNS
IC2236
UPC4741B
IC2237
UPC4741B
IC2238
UPC4741B
IC2239
UPC4741B
IC2240
TL084CNS
IC2241
NJM2901M
IC2242
MC14053BF
IC2243
MC14050BF
IC2244
MC14053BF
IC2245
MC14053BF
IC2246
MC14053BF
D2201
D2202
D2203
D2204
D2205
D2206
D2207
D2208
D2209
D2210
D2211
D2212
D2213
D2214
D2215
D2216
D2217
D2218
D2219
D2220
MA153
NA153
TP2201
TP2202
TP2203
TP2204
TP2205
TP2206
TP2207
TP2208
TP2209
TP2210
TP2211
TP2212
TP2213
TP2214
TP2215
TP2216
TP2217
TP2218
TP2219
TP2220
TP2221
TP2222
TP2223
TP2224
TP2225
TP2226
VJR0645
R2201
R2202
R2203
R2204
R2205
R2206
R2207
R2208
R2209
R2210
R2211
R2212
R2213
R2214
R2215
R2216
R2217
R2218
R2219
R2220
R2221
R2222
R2223
R2224
R2225
R2226
R2227
R2228
R2229
R2230
R2231
R2232
R2233
R2234
R2235
R2236
R2237
R2238
R2239
R2240

# S5 SERVO (CONNECTOR) SCHEMATIC DIAGRAM (4/4) [S MOTHER (P209, P210) SCHEMATIC DIAGRAM (5/14) FOR S5]

| P209 | A | S 5 FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | GND (D) | | | | | DG (GND_D) |
| 2 | DRUM FG | P236-1 | | | | DRUM_FG |
| 3 | DRUM PG- | P236-4 | | | | DRUM_PG- |
| 4 | FG 1 | P236-6 | | | | FG1 |
| 5 | TFG 1 | P236-10 | | | | T_FG1 |
| 6 | SFG 2 | P236-14 | | | | S_FG2 |
| 7 | TEN GND | P232-1 | | | | AG (TENGND) |
| 8 | TEN VCC | P232-2 | | | | TENVCC |
| 9 | CTL HEAD + | P237-1 | | | | CTL_HE+ |
| 10 | DRUM STOP L | P233-2A | | | | D_STOP_L |
| 11 | | | | | | |
| 12 | CAP EDS | P233-5B | | | | CAP_EDS |
| 13 | | | | | | |
| 14 | T R ERR | P233-7B | | | | T_R_ERR |
| 15 | | | | | | |
| 16 | FV 1/2 | P245-8A | | | | |
| 17 | FV/8 | P245-5A | | | | FV/8 |
| 18 | | | | | | |
| 19 | FV VCC | P236-9 | | | | FVVCC |
| 20 | | | | | | |
| 21 | DRUM_RST | P213-21A | | | | DRUM_RST |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | | | | | | |
| 26 | | | | | | |
| 27 | | | | | | |
| 28 | -5V (D) | | | | | |
| 29 | +5V (D) | | | | | |
| 30 | +5V (D) | | | | | |
| 31 | GND (D) | | | | | DG (GND_D) |
| 32 | GND (D) | | | | | DG (GND_D) |

| P209 | B | S 5 FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | GND (D) | | | | | DG (GND_D) |
| 2 | DRUM FG GND | P236-2 | | | | AG (D_FG_GND) |
| 3 | V FG + | P236-5 | | | | V_FG+ |
| 4 | FG 2 | P236-8 | | | | FG2 |
| 5 | T FG 2 | P236-11 | | | | T_FG2 |
| 6 | | | | | | +5VA (PHVCC) |
| 7 | AG (CTL_S) | P237-2 | | | | AG (CTL_G) |
| 8 | S TENTION | P232-4 | | | | STENTION |
| 9 | CTL HEAD - | P237-3 | | | | CTL_HE- |
| 10 | DRUM ERR | P233-3B | | | | D_ERR |
| 11 | DRUM REF GND | P233-4B | P209-10C | | | AG (D_REF_G) |
| 12 | CAP ERR | P233-5A | | | | CAP_ERR |
| 13 | CAP REF GND | P233-4A | P209-12C | | | AG (C_REF_G) |
| 14 | S R ERR | P233-7A | | | | S_R_ERR |
| 15 | FR_GATE | P207-15B | | | | FR_GATE |
| 16 | FV/2 | P245-7A | P207-16B | | | FV/2 |
| 17 | PB TP FRAME | P245-4A | | | | PB_FRAME |
| 18 | | | | | | |
| 19 | FG GND (SFG GND) | P236-15 | | | | AG (SFG GND) |
| 20 | | | | | | |
| 21 | CAP_RST | P213-21B | | | | CAP_RST |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | | | | | | |
| 26 | | | | | | |
| 27 | | | | | | |
| 28 | -5V (D) | | | | | |
| 29 | +5V (D) | | | | | |
| 30 | +5V (D) | | | | | |
| 31 | GND (D) | | | | | DG (GND_D) |
| 32 | GND (D) | | | | | DG (GND_D) |

| P209 | C |
|---|---|
| 1 | GND (D) |
| 2 | DRUM PG + |
| 3 | V FG GND |
| 4 | |
| 5 | S FG 1 |
| 6 | |
| 7 | |
| 8 | PNCH_ON |
| 9 | DRUM BRK L |
| 10 | DRUM ERR GND |
| 11 | DRUM SW L |
| 12 | CAP ERR GND |
| 13 | CAP ACC |
| 14 | 2.5V A |
| 15 | |
| 16 | FV/4 |
| 17 | PB H SW |
| 18 | |
| 19 | FG GND (TFG GND) |
| 20 | |
| 21 | REEL_RST |
| 22 | |
| 23 | |
| 24 | |
| 25 | |
| 26 | |
| 27 | |
| 28 | -5V (D) |
| 29 | +5V (D) |
| 30 | +5V (D) |
| 31 | GND (D) |
| 32 | GND (D) |

| P210 | A | S 5 FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | AC-CTL | P212-5A | P208-7B | | | A/C_CTL |
| 6 | S-SER A DATA | P214-6A | | | | SER_ADAT |
| 7 | S-SER B DATA | P214-7A | | | | SER_BDAT |
| 8 | S-SER CLK | P214-8A | | | | SER_CLK |
| 9 | S-FG | P214-9A | | | | S_FG |
| 10 | AT_DT_DT | P208-10A | | | | AT_DT_DT |
| 11 | ADV_H_SW | P208-11A | | | | ADV_H.SW |
| 12 | ADV_H_SW_GND | P208-12A | | | | DG (A_HSW_GND) |
| 13 | CAP_FB | P208-13A | | | | CAP_FB |
| 14 | CAP_FB_G | P208-14A | | | | AG (C_FB_GND) |
| 15 | | | | | | |
| 16 | CAP F/R | P208-16A | | | | CAP_F/R |
| 17 | | | | | | |
| 18 | SER H SW | P214-19A | P256-1 | P201-23B | | SER_H.SW |
| 19 | HT SPEED GND | P204-20A | P202-20A | | | AG (HT_SPD_G) |
| 20 | | | | | | |
| 21 | | | | | | |
| 22 | REC ENV CH1 | P235-3 | P201-24C | P208-20C | | R_ENV1 |
| 23 | REC ENV CH1 GND | P235-4 | P201-25C | P208-21C | | AG (R_ENV1_G) |
| 24 | | | | | | |
| 25 | -5V (A) | | | | | -5V (A) |
| 26 | +5V (A) | | | | | +5V (A) |
| 27 | -12V (A) | | | | | -12V (A) |
| 28 | +12V (A) | | | | | |
| 29 | +15V (un) | | | | | +15V |
| 30 | +8V (un) | | | | | |
| 31 | GND (A) | | | | | AG (GND_A) |
| 32 | GND (A) | | | | | AG (GND_A) |

| P210 | B | S 5 FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | SYS-FRM | P212-5B | | | | SYS_FRM |
| 5 | | | | | | AC_FRAME |
| 6 | SER_ADR0 | P214-6B | P208-6C | | | SER_AD0 |
| 7 | SER_ADR1 | P214-7B | P208-7C | | | SER_AD1 |
| 8 | SER_ADR2 | P214-8B | P208-8C | | | SER_AD2 |
| 9 | T-FG | P214-9B | | | | T_FG |
| 10 | AT_IN_DT | P208-10B | | | | AT_IN_DT |
| 11 | REC_H_SW | P208-11B | P251-13B | | | REC_H.SW |
| 12 | REC_H_SW_GND | P208-12B | | | | DG (R_HSW_G) |
| 13 | | | | | | |
| 14 | WF CTL | P249-5 | | | | WF_CTL |
| 15 | WF CTL GND | P249-6 | | | | AG (WF_CTL_G) |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | SER_NSW_GND | P256-2 | P201-24B | | | DG (SER_HSW_G) |
| 19 | REC ENV CH0 | P235-1 | P201-24A | P208-18C | | |
| 20 | | | | | | |
| 21 | | | | | | |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | -5V (A) | | | | | -5V (A) |
| 26 | +5V (A) | | | | | +5V (A) |
| 27 | -12V (A) | | | | | -12V (A) |
| 28 | +12V (A) | | | | | |
| 29 | +15V (un) | | | | | +15V |
| 30 | +8V (un) | | | | | |
| 31 | GND (A) | | | | | AG (GND_A) |
| 32 | GND (A) | | | | | AG (GND_A) |

| P210 | C |
|---|---|
| 1 | |
| 2 | |
| 3 | |
| 4 | X3FRM |
| 5 | AC-CF |
| 6 | S-SER SEL 0 |
| 7 | S-SER SEL 1 |
| 8 | CAP DIR |
| 9 | CAP FG P |
| 10 | AT_CLK |
| 11 | CNF_H_SW |
| 12 | CNF_H_SW_GND |
| 13 | CNF_H |
| 14 | CAP_FG1 |
| 15 | |
| 16 | CAP_FG2 |
| 17 | |
| 18 | HT SPEED |
| 19 | REC ENV CH0 GND |
| 20 | |
| 21 | |
| 22 | |
| 23 | |
| 24 | |
| 25 | -5V (A) |
| 26 | +5V (A) |
| 27 | -12V (A) |
| 28 | +12V (A) |
| 29 | +15V (un) |
| 30 | +8V (un) |
| 31 | GND (A) |
| 32 | GND (A) |

C B A

1 2 3 4 5

# M (4/4) [S MOTHER (P209, P210) SCHEMATIC DIAGRAM (5/14) FOR S5]

| P209 | B | S 5 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | DRUM FG GND | P236-2 | | | |
| 3 | V FG + | P236-5 | | | |
| 4 | FG 2 | P236-8 | | | |
| 5 | T FG 2 | P236-11 | | | |
| 6 | | | | | |
| 7 | AG (CTL_S) | P237-2 | | | |
| 8 | S TENTION | P232-4 | | | |
| 9 | CTL HEAD - | P237-3 | | | |
| 10 | DRUM ERR | P233-3B | | | |
| 11 | DRUM REF GND | P233-4B | P209-10C | | |
| 12 | CAP ERR | P233-5A | | | |
| 13 | CAP REF GND | P233-4A | P209-12C | | |
| 14 | S R ERR | P233-7A | | | |
| 15 | FR_GATE | P207-15B | | | |
| 16 | FV/2 | P245-7A | P207-16B | | |
| 17 | PB TP FRAME | P245-4A | | | |
| 18 | | | | | |
| 19 | FG GND (SFG GND) | P236-15 | | | |
| 20 | | | | | |
| 21 | CAP_RST | P213-21B | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | | | | | |
| 26 | | | | | |
| 27 | | | | | |
| 28 | -5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | +5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

DG (GND_D)
AG (D_FG_GND)
V_FG+
FG2
T_FG2
+5VA (PHVCC)
AG (CTL_G)
STENTION
CTL_HE-
D_ERR
AG (D_REF_G)
CAP_ERR
AG (C_REF_G)
S_R_ERR
FR_GATE
FV/2
PB_FRAME
AG (SFG GND)
CAP_RST
DG (GND_D)
DG (GND_D)

| P209 | C | S 5 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | DRUM PG + | P236-3 | | | |
| 3 | V FG GND | P236-7 | | | |
| 4 | | | | | |
| 5 | S FG 1 | P236-13 | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | PNCH_ON | P213-23A | P233-10B | | |
| 9 | DRUM BRK L | P233-2B | | | |
| 10 | DRUM ERR GND | P209-11B | P233-4B | | |
| 11 | DRUM SW L | P233-3A | | | |
| 12 | CAP ERR GND | P209-13B | P233-4A | | |
| 13 | CAP ACC | P233-6B | | | |
| 14 | 2.5V A | P233-8B | | | |
| 15 | | | | | |
| 16 | FV/4 | P245-6A | | | |
| 17 | PB H SW | P245-3A | | | |
| 18 | | | | | |
| 19 | FG GND (TFG GND) | P236-12 | | | |
| 20 | | | | | |
| 21 | REEL_RST | P213-21C | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | | | | | |
| 26 | | | | | |
| 27 | | | | | |
| 28 | -5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | +5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

DG (GND_D)
DRUM_PG+
V_FG_G
S_FG1
AG (PHGND)
PNCH-ON
D_BRK_L
AG
D_SW_L
AG
CAP_ACC
+2.5VA
FV/4
PB_H.SW
AG (TFG GND)
REEL_RST
DG (GND_D)
DG (GND_D)

(DRUM_BRK_L)
(DRUM_ERR_GND)
(DRUM_SW_L)
(CAP_ERR_GND)

| P210 | B | S 5 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | SYS-FRM | P212-5B | | | |
| 5 | | | | | |
| 6 | SER_ADR0 | P214-6B | P208-6C | | |
| 7 | SER_ADR1 | P214-7B | P208-7C | | |
| 8 | SER_ADR2 | P214-8B | P208-8C | | |
| 9 | T-FG | P214-9B | | | |
| 10 | AT_IN_DT | P208-10B | | | |
| 11 | REC_H_SW | P208-11B | P251-13B | | |
| 12 | REC_H_SW_GND | P208-12B | | | |
| 13 | | | | | |
| 14 | WF CTL | P249-5 | | | |
| 15 | WF CTL GND | P249-6 | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | SER_NSW_GND | P256-2 | P201-24B | | |
| 19 | REC ENV CH0 | P235-1 | P201-24A | P208-18C | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

SYS_FRM
AC_FRAME
SER_AD0
SER_AD1
SER_AD2
T_FG
AT_IN_DT
REC_H.SW
DG (R_HSW_G)
WF_CTL
AG (WF_CTL_G)
DG (SER_HSW_G)
-5V (A)
+5V (A)
-12V (A)
+15V
AG (GND_A)
AG (GND_A)

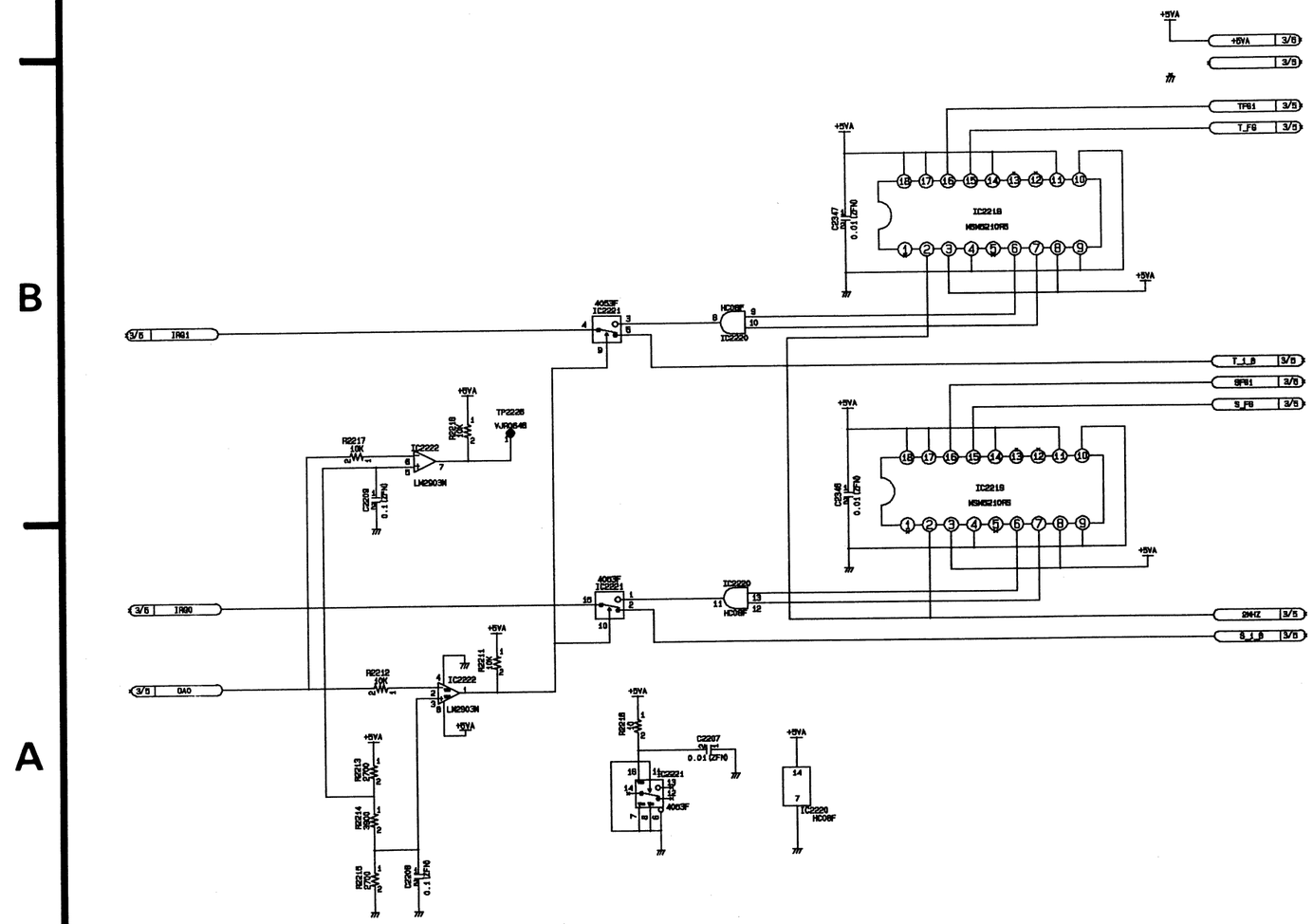
| P210 | C | S 5 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | X3FRM | P212-4C | | | |
| 5 | AC-CF | P212-5C | | | |
| 6 | S-SER SEL 0 | P214-6C | | | |
| 7 | S-SER SEL 1 | P214-7C | | | |
| 8 | CAP DIR | P214-8C | P216-8C | P251-20B | |
| 9 | CAP FG P | P214-9C | P216-9C | P251-19B | |
| 10 | AT_CLK | P208-10C | | | |
| 11 | CNF_H_SW | P208-11C | | | |
| 12 | CNF_H_SW_GND | P208-12C | | | |
| 13 | CNF_H | P208-13C | | | |
| 14 | CAP_FG1 | P208-14C | | | |
| 15 | | | | | |
| 16 | CAP_FG2 | P208-16C | | | |
| 17 | | | | | |
| 18 | HT SPEED | P204-20C | P202-20C | | |
| 19 | REC ENV CH0 GND | P235-2 | P201-25A | P208-19C | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

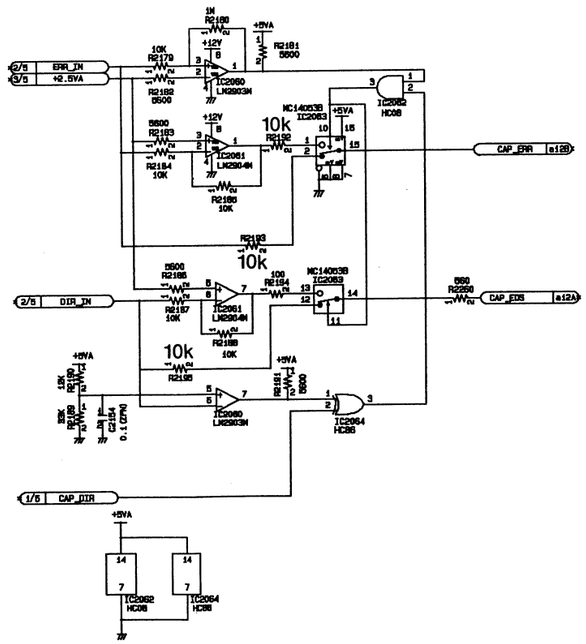
3FRM
3CF
SER_SEL0
SER_SEL1
CAP_DIR
CAP_FGP
AT_CLK
CNF_H.SW
DG
CNF_H
CAP_FG1
CAP_FG2
HT_SPD
AG
-5V (A)
+5V (A)
-12V (A)
+15V
AG (GND_A)
AG (GND_A)

(S_SER_SEL_0)
(S_SER_SEL_1)
(CNF_H.SW_GND)
(HT_SPEED)
(REC_ENV_CH0_GND)

3 4 5 6

# S5 SERVO SUB SCHEMATIC DIAGRAM



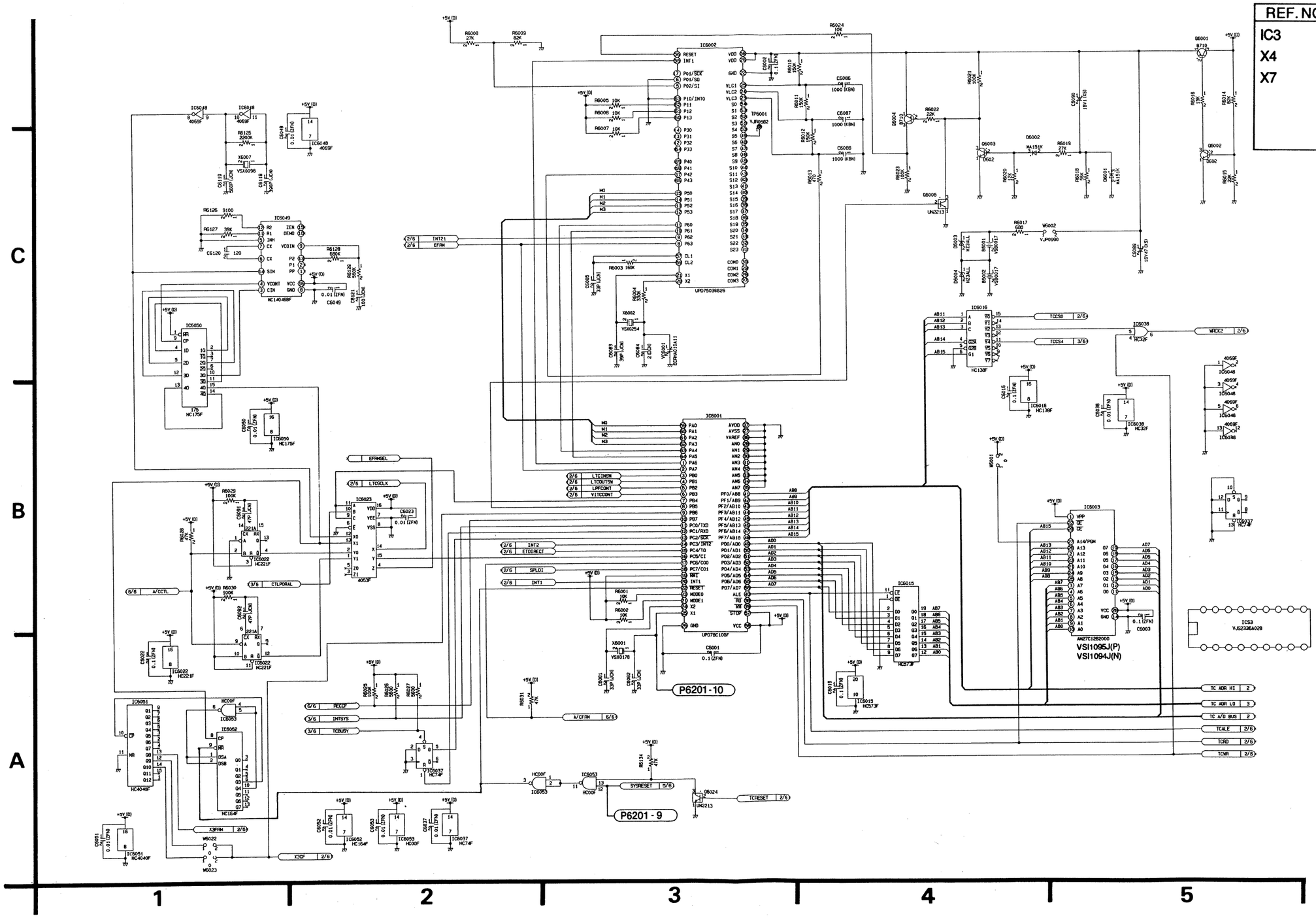



4—2—99

# S6 A1 TIME CODE SCHEMATIC DIAGRAM (1/6)

COMPARISON CHART BETWEEN
NTSC MODEL AND PAL MODEL
S6 TIME CODE P.C.B.

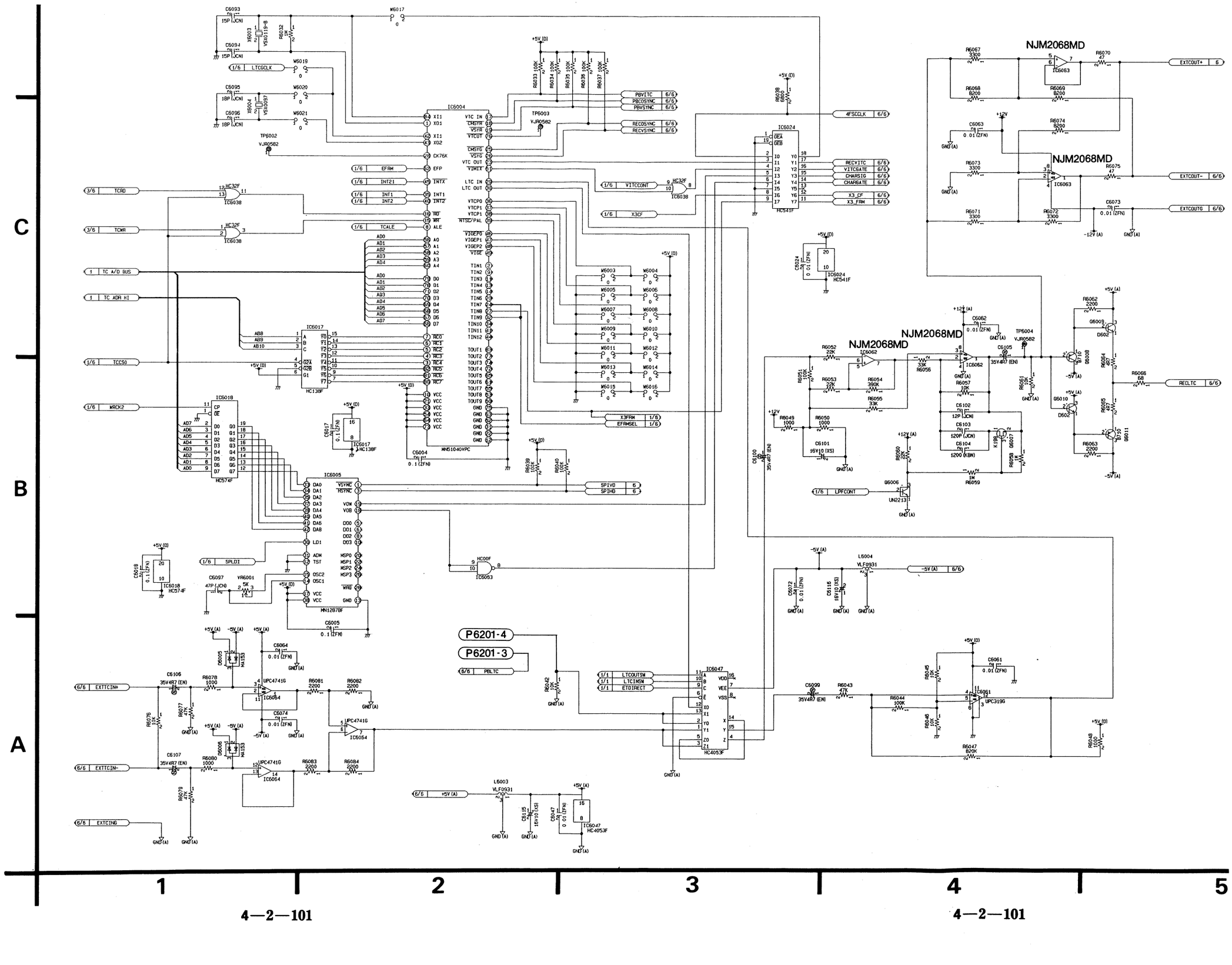
| REF. NO. | NTSC | PAL |
|---|---|---|
| IC3 | VSI1094J | VSI1095J |
| X4 | VSX0098 | VSX0097 |
| X7 | VSX0097 | VSX0098 |
| | VEP86091F | VEP86091G |
| | VEP86133A | VEP86133B |



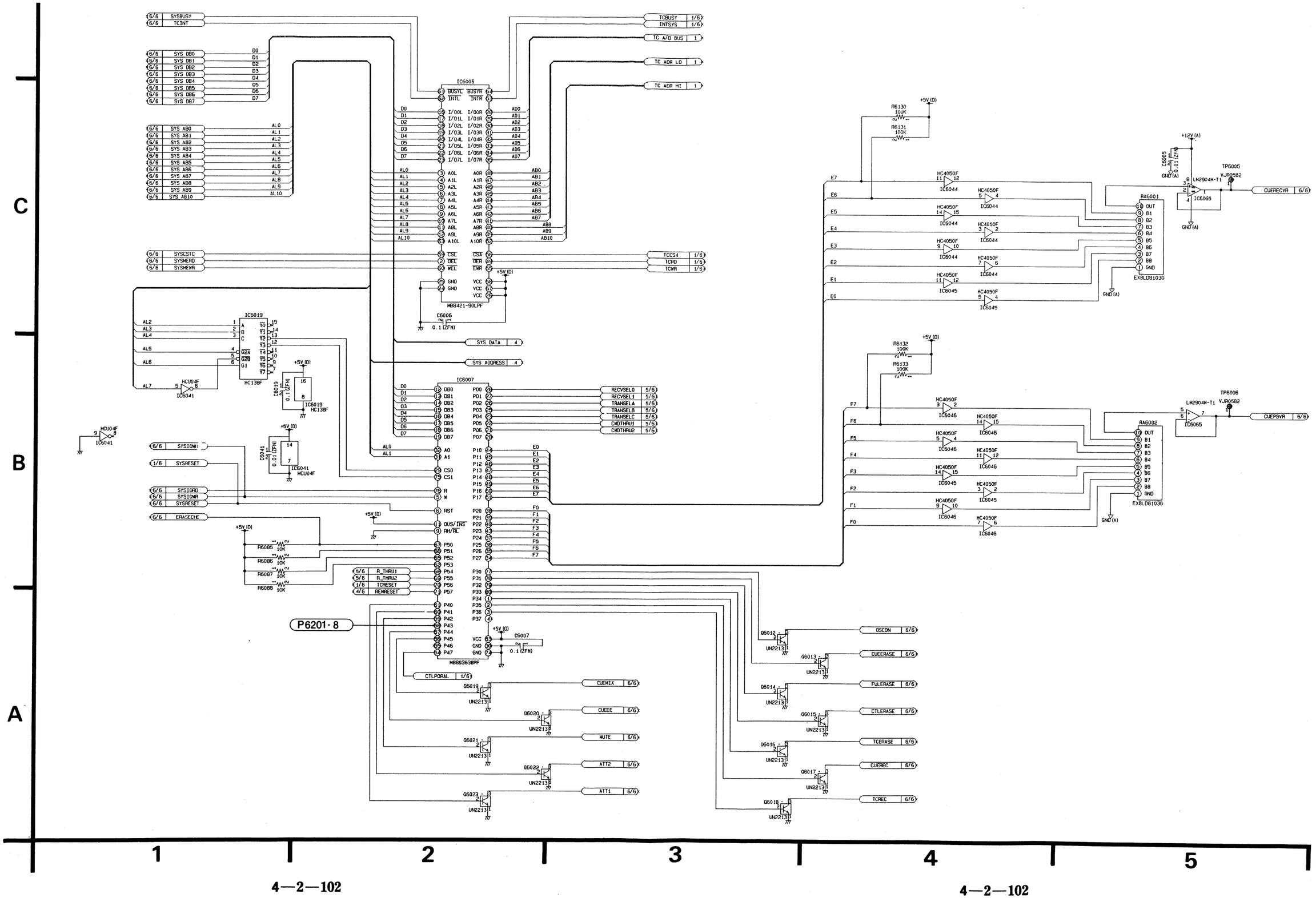



4—2—100

# S6 A1 TIME CODE SCHEMATIC DIAGRAM (2/6)



# S6 A1 TIME CODE SCHEMATIC DIAGRAM (3/6)

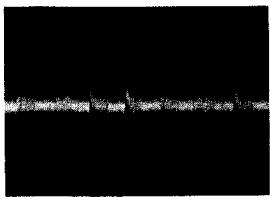



4—2—102

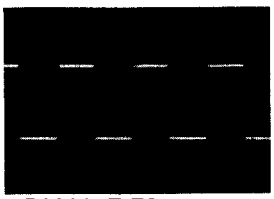
4—2—102

**NTSC**

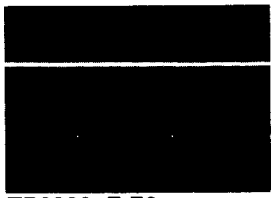
## S6 WAVEFORMS NTSC



TP6001 E-E2
100mV/2msec. div.

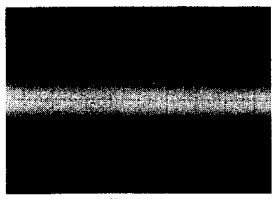


TP6002 E-E2
2V/5μsec. div.



TP6003 E-E2
2V/5msec. div.

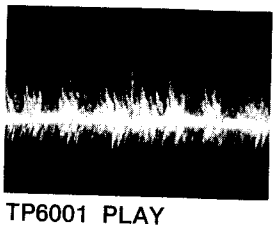
TP6004 REC
2V/1msec. div.



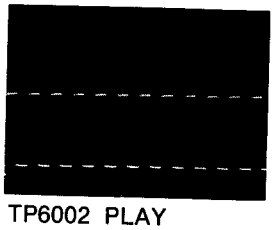
TP6005 E-E2
(TP6006)
100mV/20μsec. div.

**PAL**

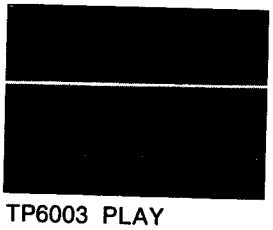
## S6 WAVEFORMS PAL



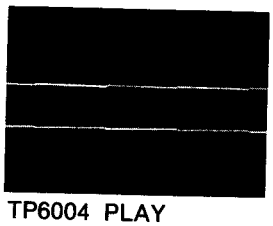
TP6001 PLAY
50mV/2msec. div.



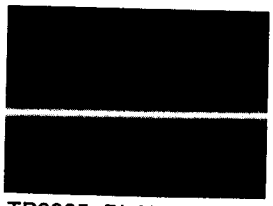
TP6002 PLAY
2V/20μsec. div.



TP6003 PLAY
2V/10msec. div.

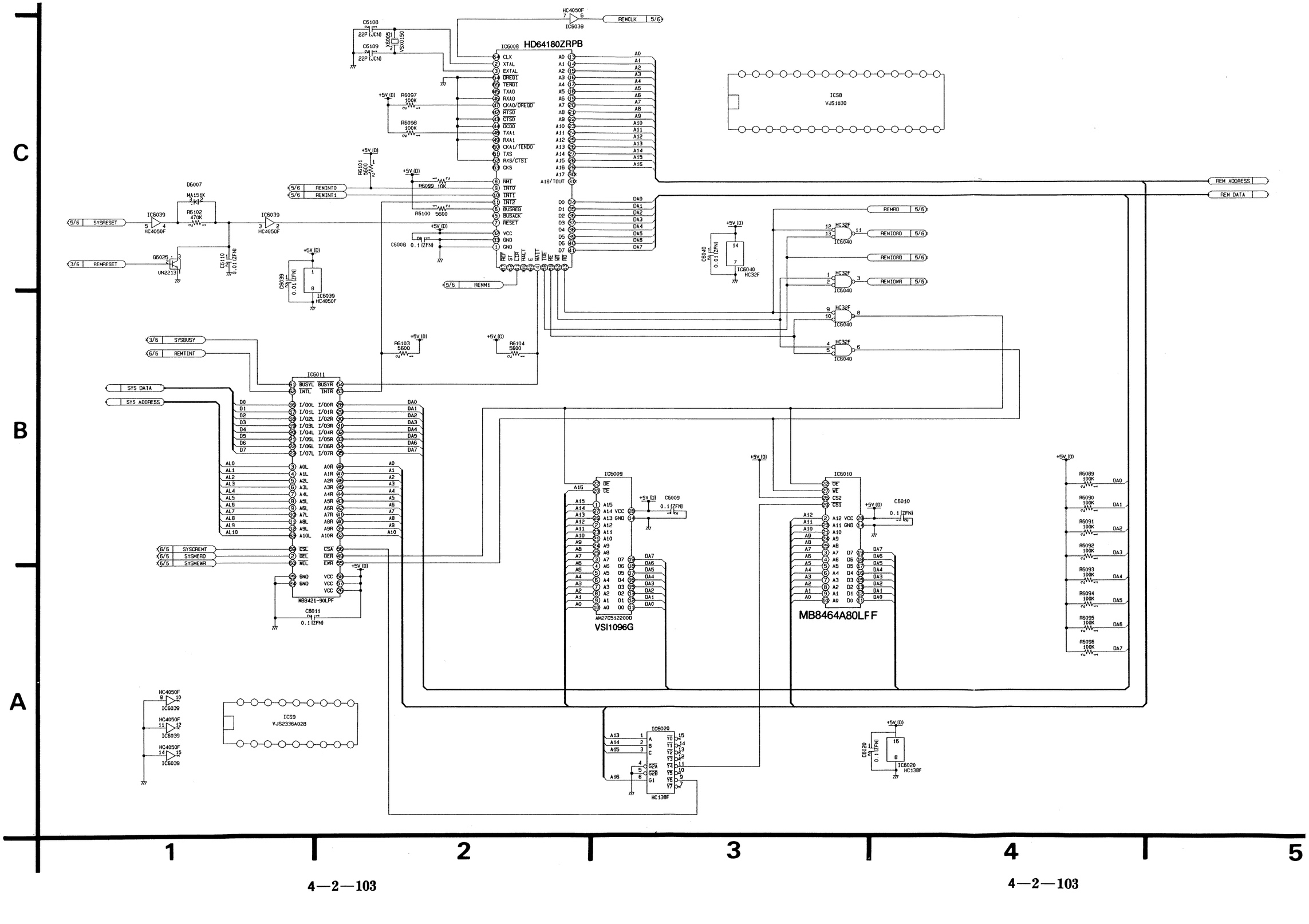


TP6004 PLAY
2V/200μsec. div.



TP6005 PLAY
(TP6006)
100mV/20μsec. div.

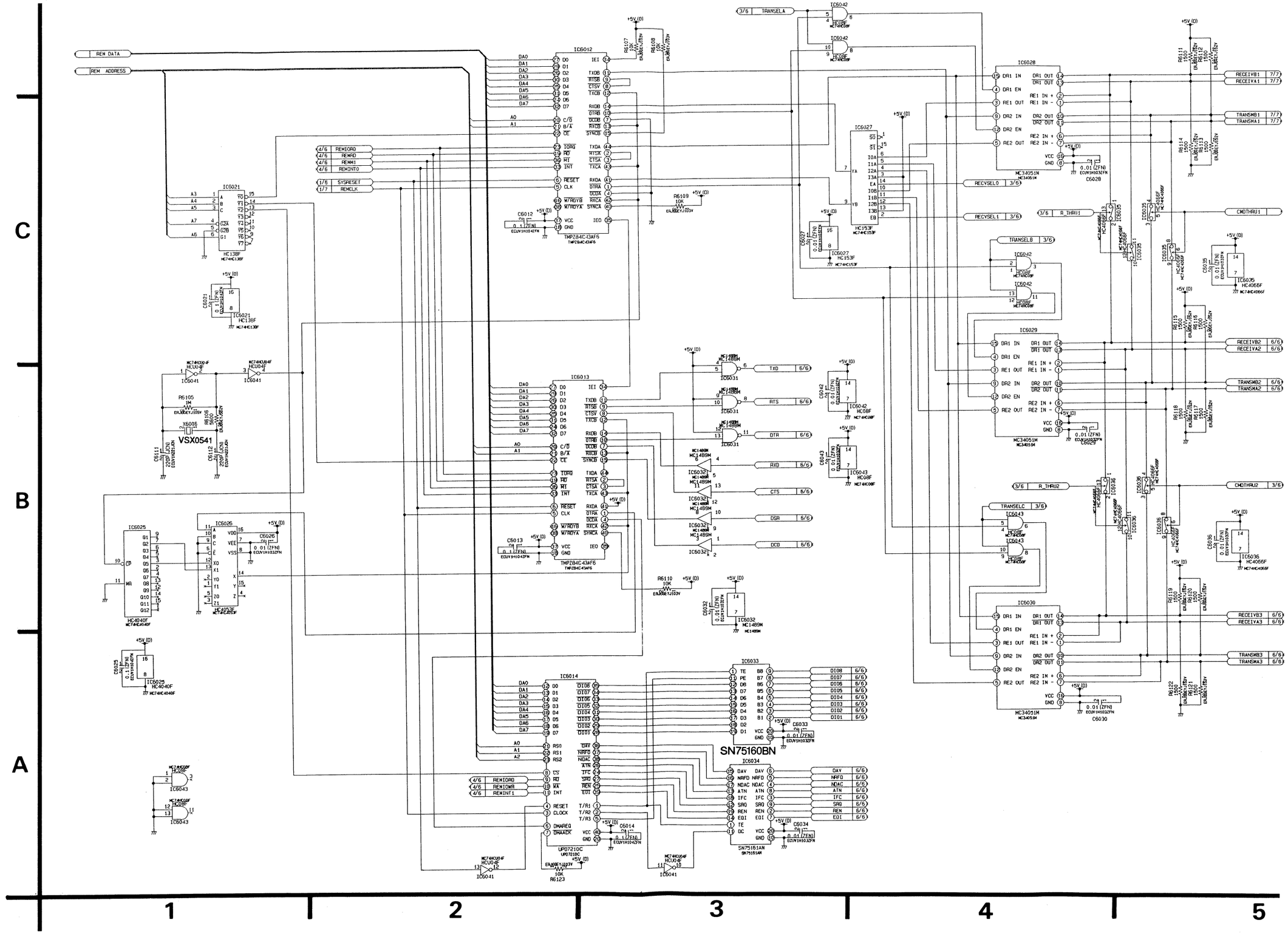
# S6 A1 TIME CODE SCHEMATIC DIAGRAM (4/6)




4—2—103

4—2—103

# S6 A1 TIME CODE SCHEMATIC DIAGRAM (5/6)






4—2—104

# S6 A1 TIME CODE SCHEMATIC DIAGRAM (6/6) [S MOTHER (P211, P212) SCHEMATIC DIAGRAM (6/14) FOR S6]

| P211 | A | S 6 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | AV AD 0 | P213-2A | P215-2A | P217-2A | P245-30B |
| 3 | AV AD 3 | P213-3A | P215-3A | P217-3A | P245-27B |
| 4 | AV AD 6 | P213-4A | P215-4A | P217-4A | P245-24B |
| 5 | AV AD 8 | P213-5A | P215-5A | P217-5A | P245-21B |
| 6 | AV AD 11 | P213-6A | P215-6A | P217-6A | P245-18B |
| 7 | AV AD 14 | P213-7A | P215-7A | P217-7A | P245-15B |
| 8 | AV RD | P213-8A | P215-8A | P217-8A | P245-12B |
| 9 | SYS DB 0 | P213-9A | P261-1 | P241-4B | |
| 10 | SYS DB 1 | P213-10A | P261-2 | P241-5B | |
| 11 | SYS DB 2 | P213-11A | P261-3 | P241-6B | |
| 12 | SYS DB 3 | P213-12A | P261-4 | P241-7B | |
| 13 | SYS DB 4 | P213-13A | P261-5 | P241-8B | |
| 14 | SYS DB 5 | P213-14A | P261-6 | P241-9B | |
| 15 | SYS DB 6 | P213-15A | P261-7 | P241-10B | |
| 16 | SYS DB 7 | P213-16A | P261-8 | P241-11B | |
| 17 | TC INT | P213-17A | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | FULL ERASE | P205-21A | | | |
| 22 | CUE ERASE | P205-22A | | | |
| 23 | CUE REC | P205-23A | | | |
| 24 | MUTE | P205-24A | | | |
| 25 | CUE REC VR | P205-25A | | | |
| 26 | REC LTC | P205-19A | | | |
| 27 | | | | | |
| 28 | -5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | +5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

D0 D1 D2 D3 D4 D5 D6 D7 TCINT

FULERASE CUEERASE CUEREC MUTE CUERECVR RECLTC

-5V (D) +5V (D) +5V (D) GND (D) GND (D)

+5V(D) → P6201-6
−5V(A) → P6201-5
P6201-7

| P211 | B | S 6 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | AV AD 1 | P213-2B | P215-2B | P217-2B | P245-29B |
| 3 | AV AD 4 | P213-3B | P215-3B | P217-3B | P245-26B |
| 4 | AV AD 7 | P213-4B | P215-4B | P217-4B | P245-23B |
| 5 | AV AB 9 | P213-5B | P215-5B | P217-5B | P245-20B |
| 6 | AV AB 12 | P213-6B | P215-6B | P217-6B | P245-17B |
| 7 | AV AB 15 | P213-7B | P215-7B | P217-7B | P245-14B |
| 8 | AV WR | P213-8B | P215-8B | P217-8B | P245-11B |
| 9 | SYS AB 0 | P213-9B | P260-1 | P241-4A | |
| 10 | SYS AB 1 | P213-10B | P260-2 | P241-5A | |
| 11 | SYS AB 2 | P213-11B | P260-3 | P241-6A | |
| 12 | SYS AB 3 | P213-12B | P260-4 | P241-7A | |
| 13 | SYS AB 4 | P213-13B | P260-5 | P241-8A | |
| 14 | SYS AB 5 | P213-14B | P260-6 | P241-9A | |
| 15 | SYS AB 6 | P213-15B | P260-7 | P241-10A | |
| 16 | SYS AB 7 | P213-16B | P260-8 | P241-11A | |
| 17 | SYS AB 8 | P213-17B | | | |
| 18 | SYS AB 9 | P213-18B | | | |
| 19 | SYS AB 10 | P213-19B | | | |
| 20 | | | | | |
| 21 | OSC ON | P205-21B | | | |
| 22 | TC ERASE | P205-22B | | | |
| 23 | TC REC | P205-23B | | | |
| 24 | ATT 1 | P205-24B | | | |
| 25 | CUE PB VR | P205-25B | | | |
| 26 | PB LTC | P205-19B | | | |
| 27 | | | | | |
| 28 | -5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | +5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

AL0 AL1 AL2 AL3 AL4 AL5 AL6 AL7 AL8 AL9 AL10

OSCON TCERASE TCREC ATT1 CUEPBVR PBLTC

-5V (D) +5V (D) +5V (D) GND (D) GND (D)

+12V(A) → A
−12V(A) → B

| P211 | C | S 6 FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | GND (D) | | | | | |
| 2 | AV AD 2 | P213-2C | P215-2C | P217-2C | P245-28B | |
| 3 | AV AD 5 | P213-3C | P215-3C | P217-3C | P245-25B | |
| 4 | AV ALE | P213-4C | P215-4C | P217-4C | P245-22B | |
| 5 | AV AB 10 | P213-5C | P215-5C | P217-5C | P245-19B | |
| 6 | AV AB 13 | P213-6C | P215-6C | P217-6C | P245-16B | |
| 7 | AV SYS INT | P213-7C | P245-13B | | | |
| 8 | AV BUSY | P213-8C | P245-10B | | | |
| 9 | SYS RESET | P213-9C | P260-9 | P241-12B | P233-10A | P205-9C |
| 10 | SYS IORD | P213-10C | P260-10 | P241-12A | | |
| 11 | SYS IOWR | P213-11C | P260-11 | P241-13A | | |
| 12 | SYS MERD | P213-12C | | | | |
| 13 | SYS MEWR | P213-13C | | | | |
| 14 | SYS BUSY | P213-14C | | | | |
| 15 | SYS CS TC | P213-15C | | | | |
| 16 | SYS CS REMT | P213-16C | | | | |
| 17 | REMT INT | P213-17C | | | | |
| 18 | SYS CS VIDEO | P213-18C | | | | |
| 19 | | | | | | |
| 20 | | | | | | |
| 21 | ERASE CHECK | P205-21C | | | | |
| 22 | CTL ERASE | P205-22C | | | | |
| 23 | CUE EE | P205-23C | | | | |
| 24 | ATT 2 | P205-24C | | | | |
| 25 | CUE MIX | P205-25C | | | | |
| 26 | | | | | | |
| 27 | | | | | | |
| 28 | -5V (D) | | | | | |
| 29 | +5V (D) | | | | | |
| 30 | +5V (D) | | | | | |
| 31 | GND (D) | | | | | |
| 32 | GND (D) | | | | | |

| P212 | A | S 6 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | T/C IN+ | P238-2 | | | |
| 3 | T/C OUT+ | P238-5 | | | |
| 4 | | | | | |
| 5 | AC-CTL | P210-5A | P208-7B | | |
| 6 | TRANSMIT A 1 | P263-1B | | | |
| 7 | TRANSMIT B 1 | P263-1A | | | |
| 8 | RECEIVE A 1 | P263-2B | | | |
| 9 | RECEIVE B 1 | P263-2A | | | |
| 10 | TXD | P263-4B | | | |
| 11 | CTS | P263-5A | | | |
| 12 | CHAR SIG | P251-12B | | | |
| 13 | SPI HD | P251-18B | | | |
| 14 | PB VITC | P251-16B | | | |
| 15 | REC CF | P213-19A | P251-10B | | |
| 16 | 4fsc CLK | P249-7 | | | |
| 17 | DIO 1 | P263-9B | | | |
| 18 | DIO 4 | P263-12B | | | |
| 19 | DIO 7 | P263-15B | | | |
| 20 | DAV | P263-9A | | | |
| 21 | ATN | P263-12A | | | |
| 22 | REM | P263-15A | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

EXTTCIN+ EXTCOUT+

A/CCTL TRANSMA1 TRANSMB1 RECEIVA1 RECEIVB1 TXD CTS CHARSIG SPIHD PBVITC RECCF 4FSCCLK DIO1 DIO4 DIO7 DAV ATN REN

P6201-2

-5V (A) +5V (A) -12V (A) +12V (A) +15V (UN) +8V (UN) GND (A) GND (A)

P6201-1

| P212 | B | S 6 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | T/C IN- | P238-3 | | | |
| 3 | T/C OUT- | P238-6 | | | |
| 4 | | | | | |
| 5 | SYS_FRM | P210-4B | | | |
| 6 | TRANSMIT A 2 | P263-17B | | | |
| 7 | TRANSMIT B 2 | P263-17A | | | |
| 8 | RECEIVE A 2 | P263-18B | | | |
| 9 | RECEIVE B 2 | P263-18A | | | |
| 10 | RXD | P263-4A | | | |
| 11 | DSR | P263-6A | | | |
| 12 | CHAR GATE | P251-11B | | | |
| 13 | SPI VD | P251-17B | | | |
| 14 | PB COMP SYNC | P251-15B | | | |
| 15 | REC VITC | P251-9B | | | |
| 16 | REC COMP SYNC | P251-7B | | | |
| 17 | DIO 2 | P263-10B | | | |
| 18 | DIO 5 | P263-13B | | | |
| 19 | DIO 8 | P263-16B | | | |
| 20 | NRFD | P263-10A | | | |
| 21 | IFC | P263-13A | | | |
| 22 | EOI | P263-16A | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

EXTTCIN- EXTCOUT-

A/CFRM TRANSMA2 TRANSMB2 RECEIVA2 RECEIVB2 RXD DSR CHARGATE SPIVD PBCOSYNC RECVITC RECOSYNC DIO2 DIO5 DIO8 NRFD IFC EOI

-5V (A) +5V (A) -12V (A) +12V (A) +15V (UN) +8V (UN) GND (A) GND (A)

| P212 | C | S 6 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | T/C IN GND | P238-1 | | | |
| 3 | T/C OUT GND | P238-4 | | | |
| 4 | X3FRM | P210-4C | | | |
| 5 | AC-CF | P210-5C | | | |
| 6 | TRANSMIT A 3 | P263-19B | | | |
| 7 | TRANSMIT B 3 | P263-19A | | | |
| 8 | RECEIVE A 3 | P263-20B | | | |
| 9 | RECEIVE B 3 | P263-20A | | | |
| 10 | RTS | P263-5B | | | |
| 11 | DTR | P263-7B | | | |
| 12 | DCD | P263-6B | | | |
| 13 | | | | | |
| 14 | PB V SYNC | P251-14B | | | |
| 15 | VITC GATE | P251-8B | | | |
| 16 | REC V SYNC | P213-18A | P251-6B | | |
| 17 | DIO 3 | P263-11B | | | |
| 18 | DIO 6 | P263-14B | | | |
| 19 | | | | | |
| 20 | NDAC | P263-11A | | | |
| 21 | SRQ | P263-14A | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

C B A

1 2 3 4 5

S 6
ROM / TO

| | | |
|---|---|---|
| P2 2C | P245-28B | |
| P2 3C | P245-25B | |
| P217-4C | P245-22B | |
| P217-5C | P245-19B | |
| P2 6C | P245-16B | |
| | | |
| P241-12B | P233-10A | P205-9C |
| P241-12A | | |
| P241-13A | | |

SYSRESET
SYSIORD
SYSIOWR
SYSMERD
SYSMEWR
SYSBUSY
SYSCSTC
SYSCREMT
REMTINT

ERASECHE
CTLERASE
CUEEE
ATT2
CUEMIX

-5V (D)
+5V (D)
+5V (D)
GND (D)
GND (D)

+12V (A)
L6001 VLF0931
GND (A)
C6113 16V10 (XS)
C6031 0.01 (ZFN)
C6066 0.1 (ZFN)
IC6066 UPC317H
R6124 240
C6076 0.22 (ZFN)
VR6002 1000
IC6031 MC1488M
-12V (A)
L6002 VLF0931
C6114 16V10 (XS)
C6071 0.01 (ZFN)
C6044 0.01 (ZFN)
IC6044 HC4050F
C6045 0.01 (ZFN)
IC6045 HC4050F
C6046 0.01 (ZFN)
IC6046 HC4050F

GND (A)
GND (A)
X3_FRM
X3_CF
TRANSMA3
TRANSMB3
RECEIVA3
RECEIVB3
RTS
DTR
DCD

P261-6B

PBVSYNC
VITCGATE
RECVSYNC
DIO3
DIO6

NDAC
SRQ

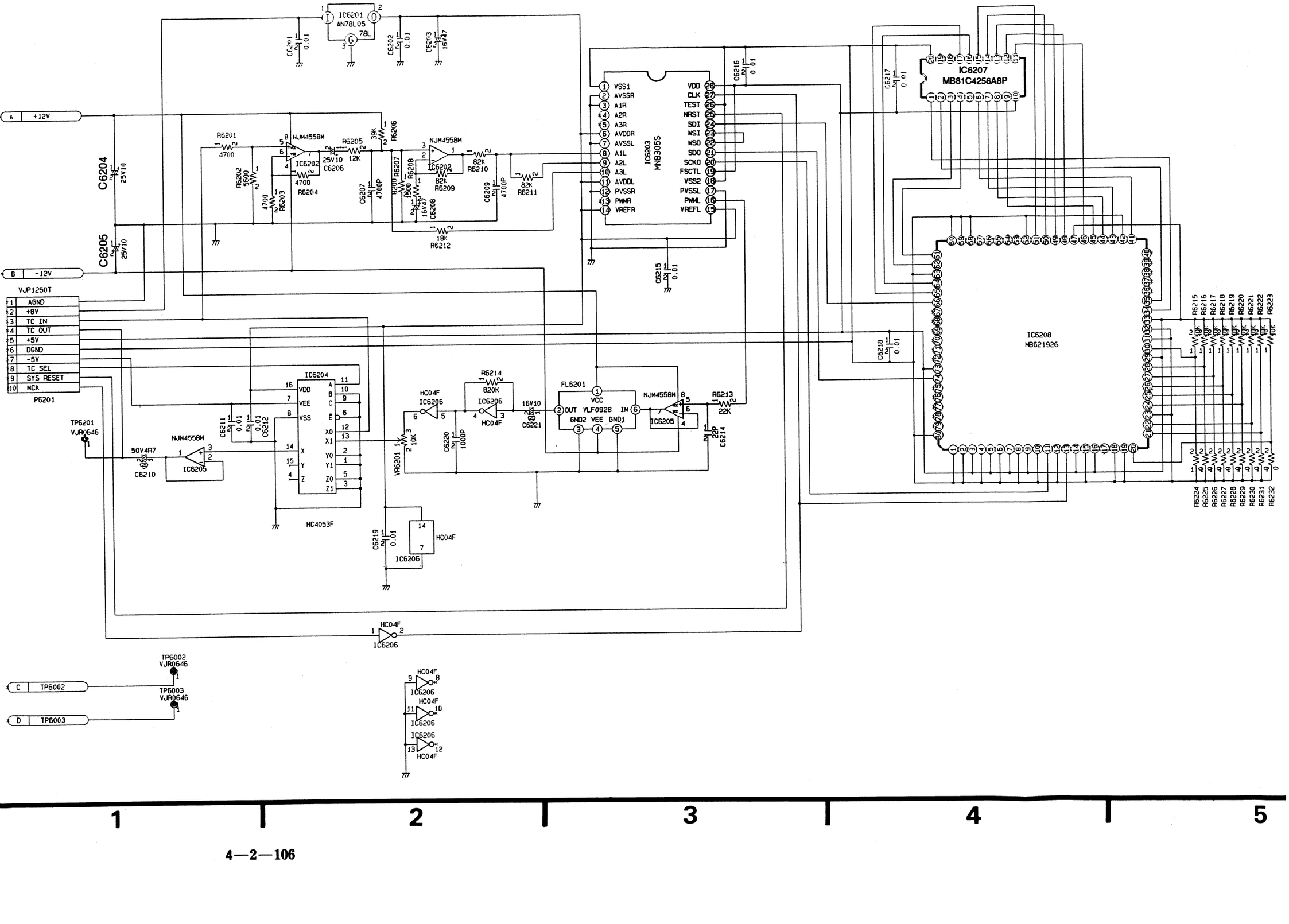
-5V (A)
+5V (A)
-12V (A)
+12V (A)
+15V (UN)
+8V (UN)
GND (A)
GND (A)

GND (A)
+5V (D)
L6005 VLF0931
C6117 10V68 (XS)
GND (D)

TPGD6001 VJR0582
TPGD6002 VJR0582
TPGA6001 VJR0582
GND (A)
W6018
GND (A)

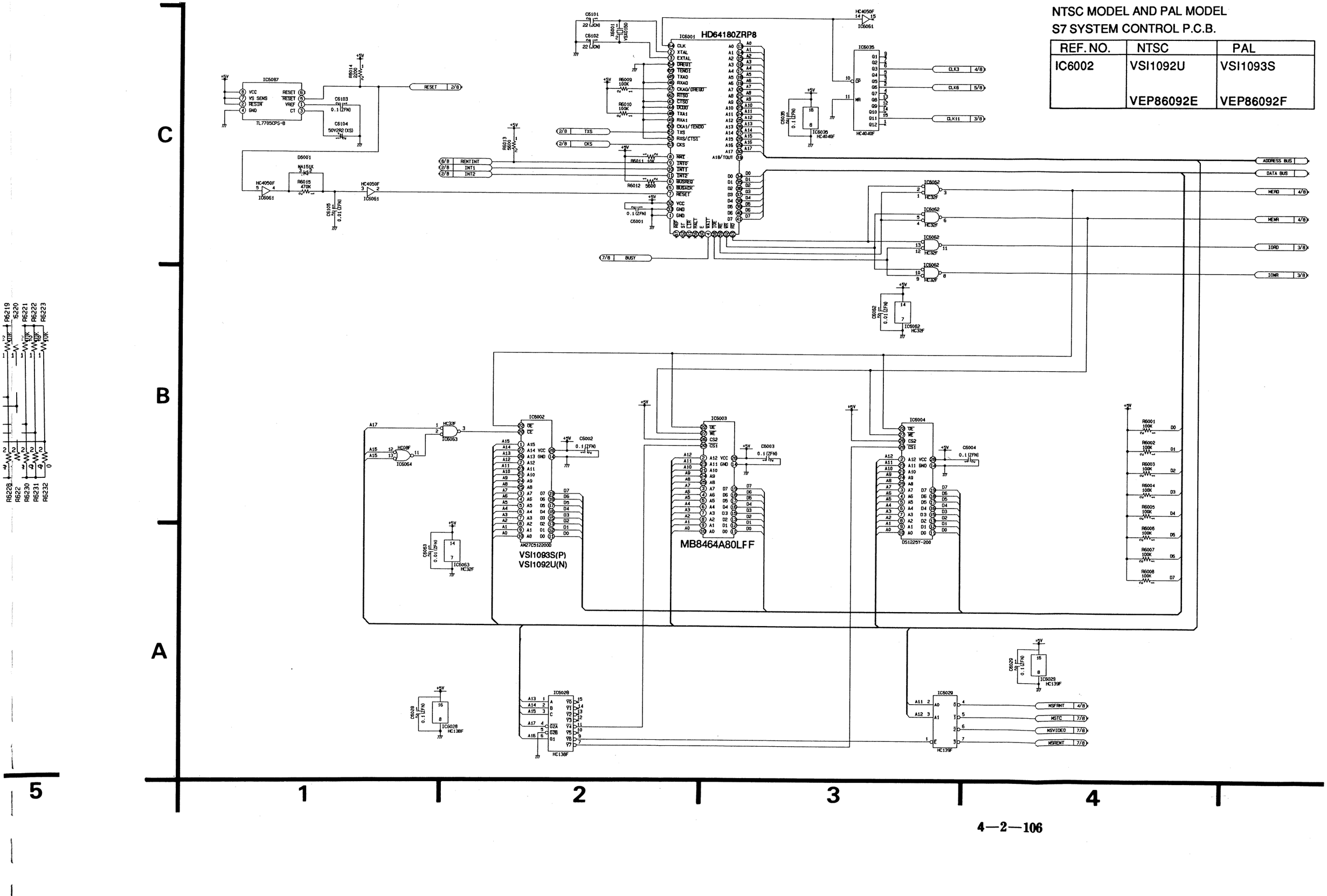
6 7

# S6 A1 TIME CODE SUB SCHEMATIC DIAGRAM

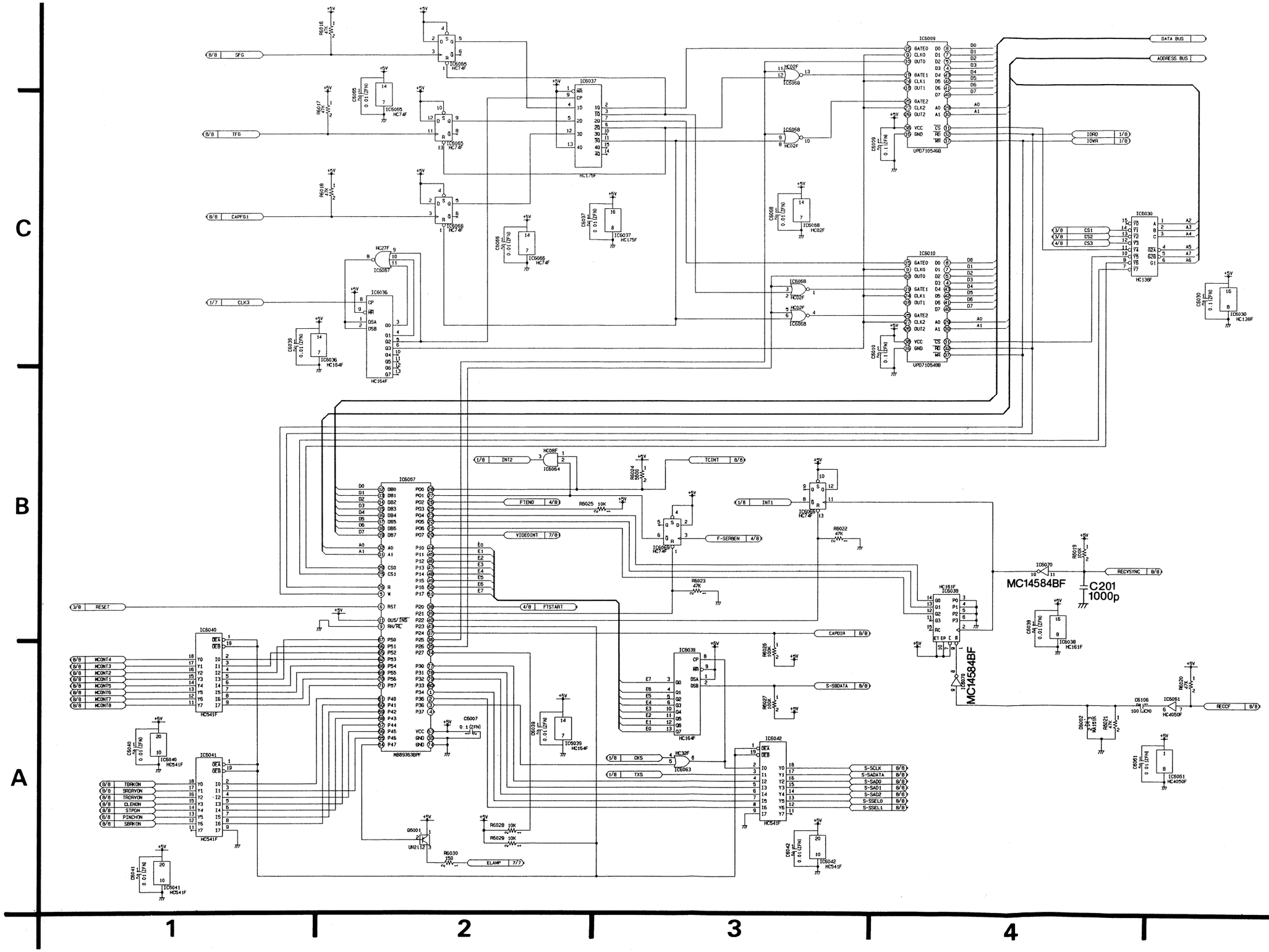


COMPARISON CHART BETWEEN
NTSC MODEL AND PAL MODEL
S7 SYSTEM CONTROL P.C.B.

| REF. NO. | NTSC | PAL |
|---|---|---|
| IC6002 | VSI1092U<br><br>VEP86092E | VSI1093S<br><br>VEP86092F |



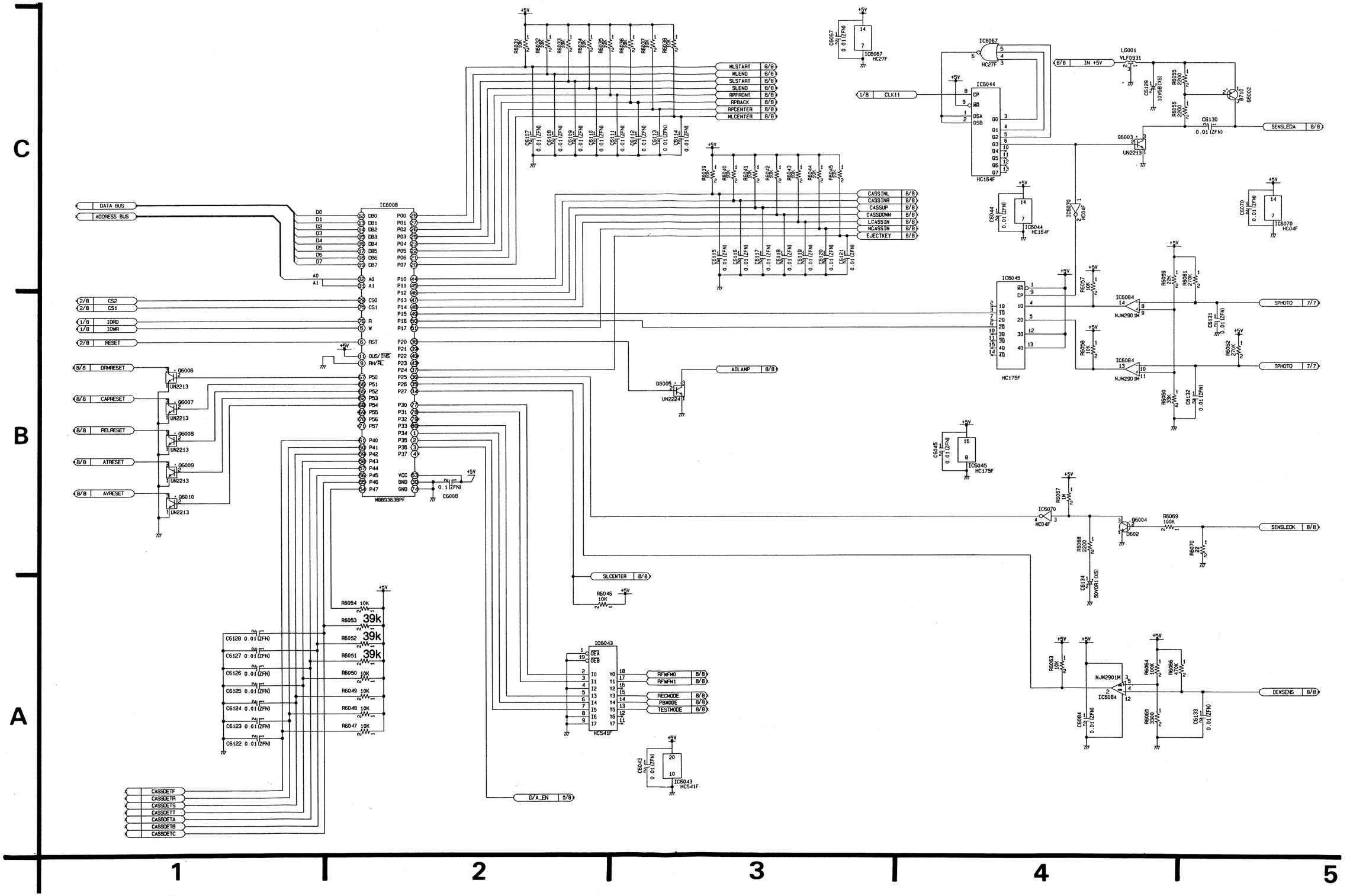
# S7 SYSTEM CONTROL SCHEMATIC DIAGRAM (2/8)






4—2—107

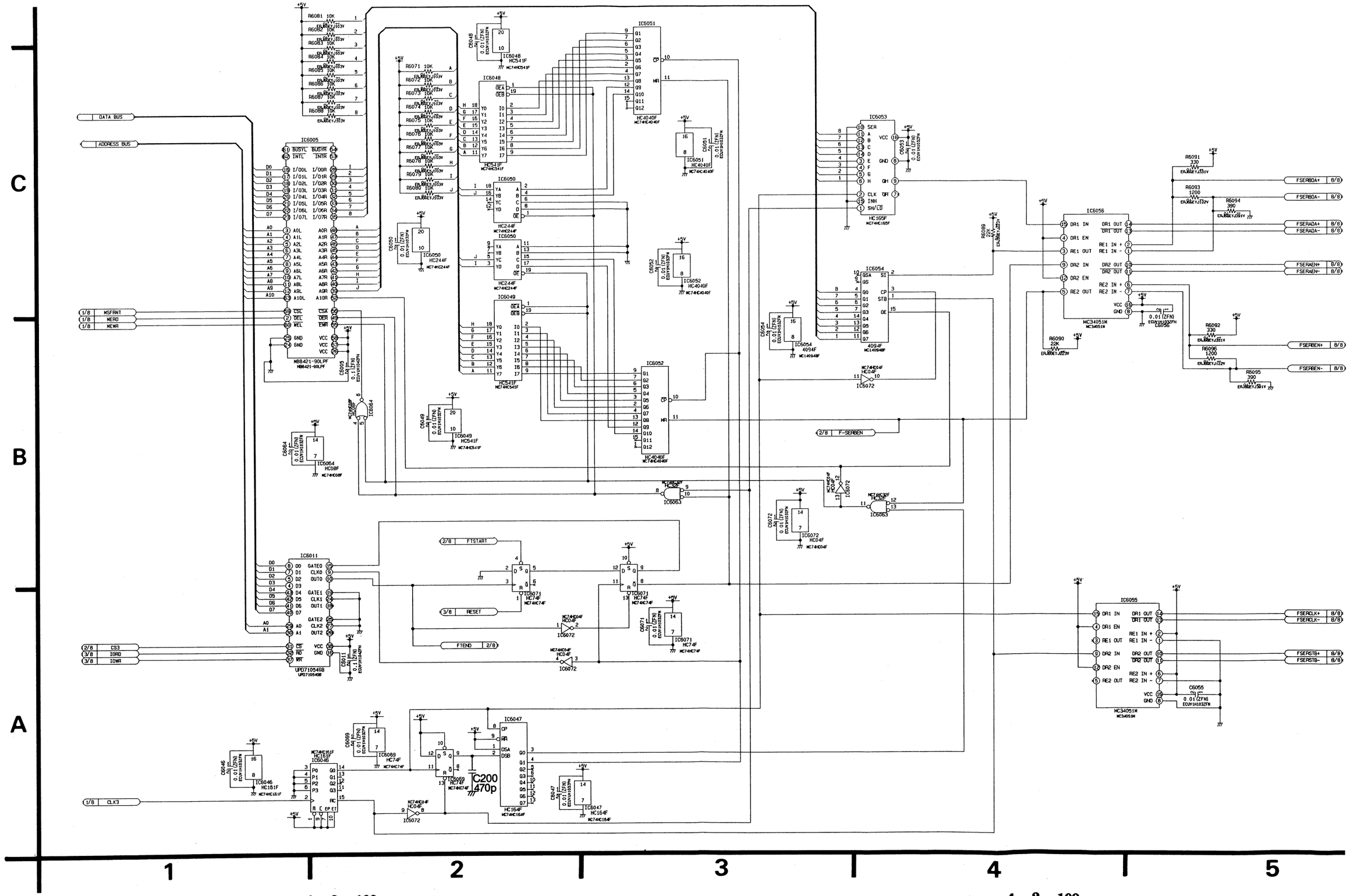
# S7 SYSTEM CONTROL SCHEMATIC DIAGRAM (3/8)






4—2—108

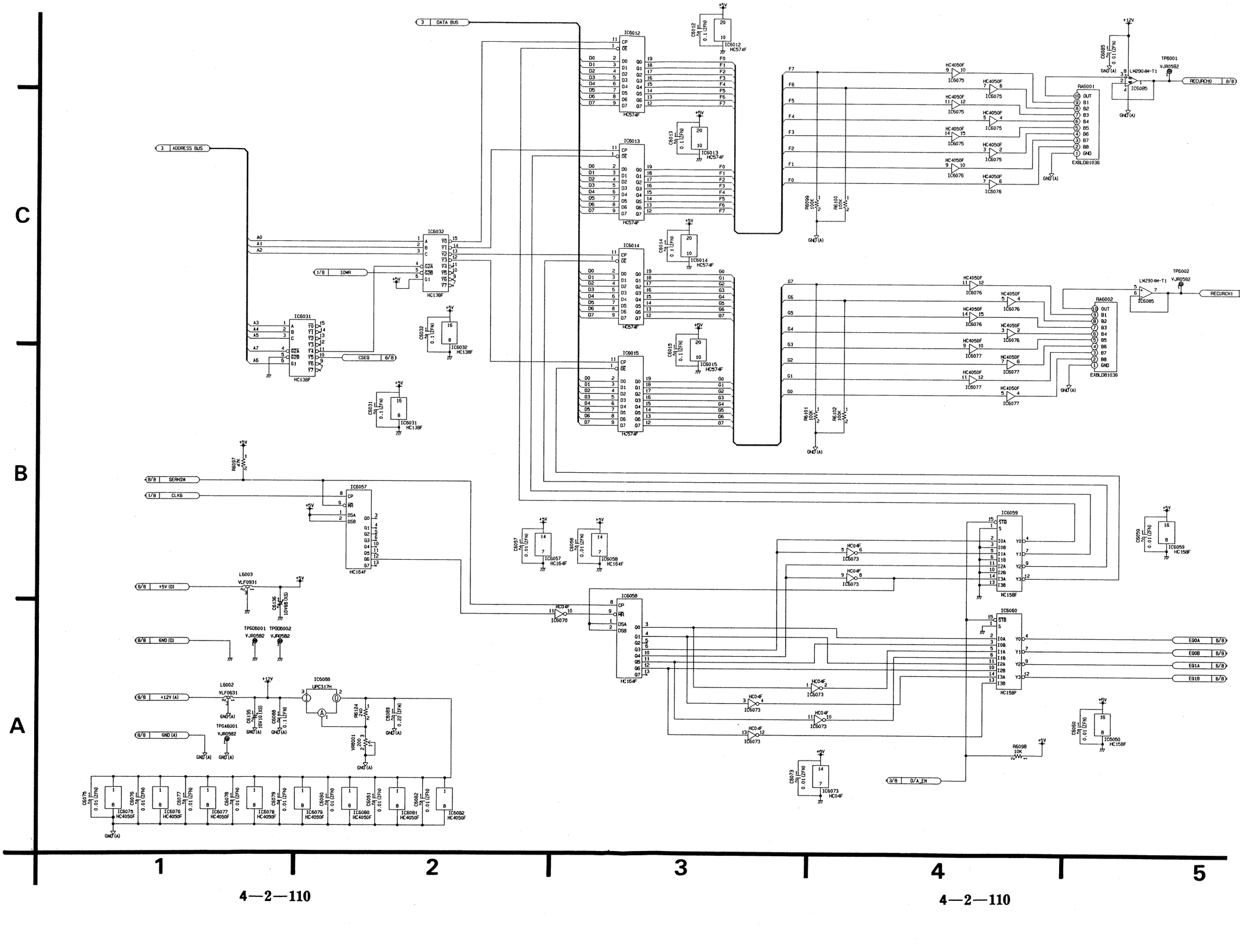
# S7 SYSTEM CONTROL SCHEMATIC DIAGRAM (4/8)



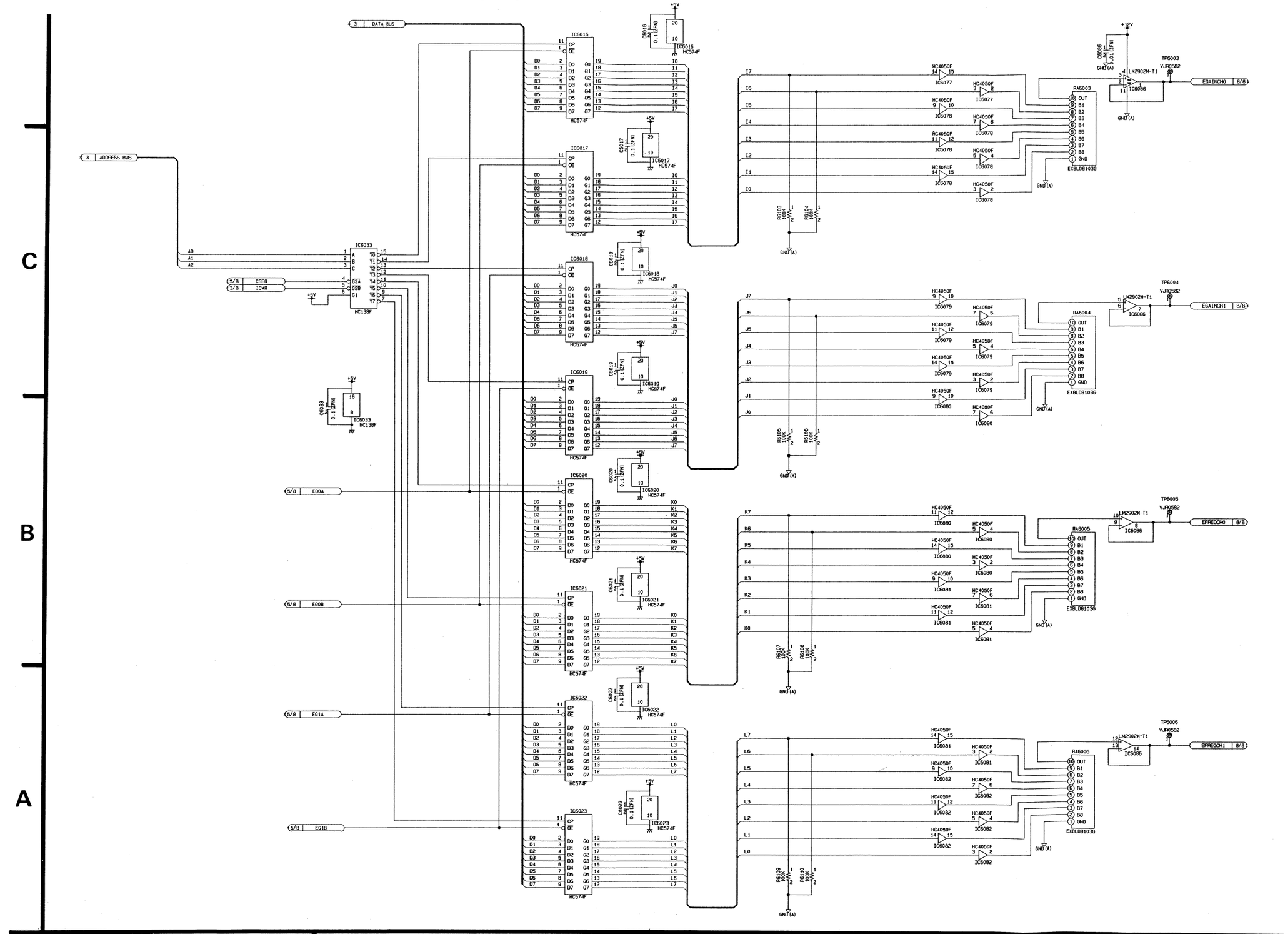



4—2—109

# S7 SYSTEM CONTROL SCHEMATIC DIAGRAM (5/8)

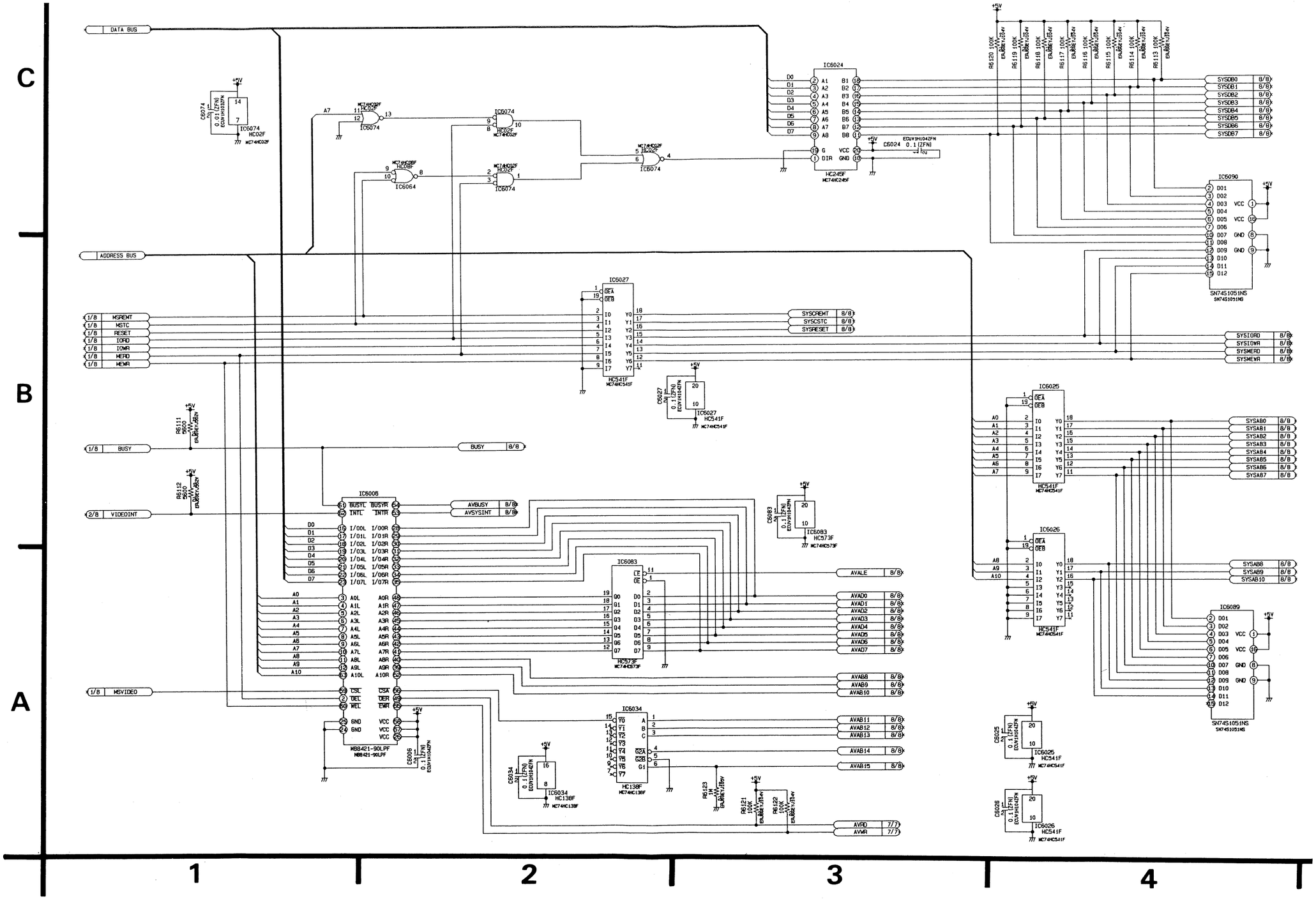


# S7 SYSTEM CONTROL SCHEMATIC DIAGRAM (6/8)




4—2—111 4—2—111

# S7 SYSTEM CONTROL SCHEMATIC DIAGRAM (7/8)

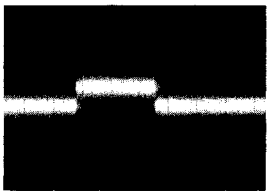




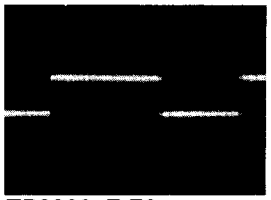

4—2—112

NTSC

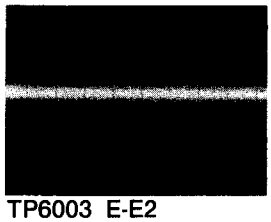
## S7 WAVEFORMS NTSC



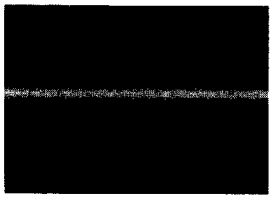
TP6001 E-E2
200mV/2msec. div.



TP6002 E-E2
500mV/2msec. div.



TP6003 E-E2
200mV/20μsec. div.



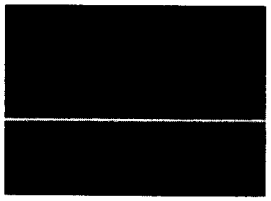
TP6004 E-E2
(TP6005, TP6006)
200mV/20μsec. div.

PAL

## S7 WAVEFORMS PAL

TP6001 PLAY
200mV/2msec. div.

TP6002 PLAY
200mV/2msec. div.



TP6003 PLAY
(TP6004, TP6005, TP6006)
200mV/20μsec. div.

# S7 SYSTEM CONTROL SCHEMATIC DIAGRAM (8/8) [S MOTHER (P213, P214) SCHEMATIC DIAGRAM (7/14) FOR S7]

C

| P213 | A | S 7 FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | GND (D) | | | | | GND (D) |
| 2 | AV AD 0 | P245-30B | P215-2A | P217-2A | P211-2A | AVAD0 |
| 3 | AV AD 3 | P245-27B | P215-3A | P217-3A | P211-3A | AVAD3 |
| 4 | AV AD 6 | P245-24B | P215-4A | P217-4A | P211-4A | AVAD6 |
| 5 | AV AB 8 | P245-21B | P215-5A | P217-5A | P211-5A | AVAB8 |
| 6 | AV AB 11 | P245-18B | P215-6A | P217-6A | P211-6A | AVAB11 |
| 7 | AV AB 14 | P245-15B | P215-7A | P217-7A | P211-7A | AVAB14 |
| 8 | AV RD | P245-12B | P215-8A | P217-8A | P211-8A | AVRD |
| 9 | SYS DB 0 | P261-1 | P211-9A | P241-4B | | SYSDB0 |
| 10 | SYS DB 1 | P261-2 | P211-10A | P241-5B | | SYSDB1 |
| 11 | SYS DB 2 | P261-3 | P211-11A | P241-6B | | SYSDB2 |
| 12 | SYS DB 3 | P261-4 | P211-12A | P241-7B | | SYSDB3 |
| 13 | SYS DB 4 | P261-5 | P211-13A | P241-8B | | SYSDB4 |
| 14 | SYS DB 5 | P261-6 | P211-14A | P241-9B | | SYSDB5 |
| 15 | SYS DB 6 | P261-7 | P211-15A | P241-10B | | SYSDB6 |
| 16 | SYS DB 7 | P261-8 | P211-16A | P241-11B | | SYSDB7 |
| 17 | TC INT | P211-17A | | | | TCINT |
| 18 | REC V SYNC | P212-16C | P251-6B | | | RECVSYNC |
| 19 | REC CF | P212-15A | P251-10B | | | RECCF |
| 20 | MRST | P208-22C | | | | ATRESET |
| 21 | DRUM RST | P209-21A | | | | DRMRESET |
| 22 | MCONT 5 | P233-9B | | | | MCONT5 |
| 23 | PINCH ON | P233-10B | P209-8C | | | PINCHON |
| 24 | MCONT 1 | P233-13B | | | | MCONT1 |
| 25 | MCONT 2 | P263-13A | | | | MCONT2 |
| 26 | T REEL DRV ON | P233-15B | | | | TRDRVON |
| 27 | | | | | | |
| 28 | -5V (D) | | | | | -5V (D) |
| 29 | +5V (D) | | | | | +5V (D) |
| 30 | +5V (D) | | | | | +5V (D) |
| 31 | GND (D) | | | | | GND (D) |
| 32 | GND (D) | | | | | GND (D) |

| P213 | B | S 7 FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | GND (D) | | | | | GND (D) |
| 2 | AV AD 1 | P245-29B | P215-2B | P217-2B | P211-2B | AVAD1 |
| 3 | AV AD 4 | P245-26B | P215-3B | P217-3B | P211-3B | AVAD4 |
| 4 | AV AD 7 | P245-23B | P215-4B | P217-4B | P211-4B | AVAD7 |
| 5 | AV AB 9 | P245-20B | P215-5B | P217-5B | P211-5B | AVAB9 |
| 6 | AV AB 12 | P245-17B | P215-6B | P217-6B | P211-6B | AVAB12 |
| 7 | AV AB 15 | P245-14B | P215-7B | P217-7B | P211-7B | AVAB15 |
| 8 | AV WR | P245-11B | P215-8B | P217-8B | P211-8B | AVWR |
| 9 | SYS AB 0 | P260-1 | P211-9B | P241-4A | | SYSAB0 |
| 10 | SYS AB 1 | P260-2 | P211-10B | P241-5A | | SYSAB1 |
| 11 | SYS AB 2 | P260-3 | P211-11B | P241-6A | | SYSAB2 |
| 12 | SYS AB 3 | P260-4 | P211-12B | P241-7A | | SYSAB3 |
| 13 | SYS AB 4 | P260-5 | P211-13B | P241-8A | | SYSAB4 |
| 14 | SYS AB 5 | P260-6 | P211-14B | P241-9A | | SYSAB5 |
| 15 | SYS AB 6 | P260-7 | P211-15B | P241-10A | | SYSAB6 |
| 16 | SYS AB 7 | P260-8 | P211-16B | P241-11A | | SYSAB7 |
| 17 | SYS AB 8 | | P211-17B | | | SYSAB8 |
| 18 | SYS AB 9 | | P211-18B | | | SYSAB9 |
| 19 | SYS AB10 | | P211-19B | | | SYSAB10 |
| 20 | VCP RESET | P251-5B | | | | AVRESET |
| 21 | CAP RST | P209-21B | | | | CAPRESET |
| 22 | MCONT 6 | P233-9A | | | | MCONT6 |
| 23 | S BRK ON | P233-11B | | | | SBRKON |
| 24 | STP ON | P233-12B | | | | STPON |
| 25 | MCONT 3 | P233-14B | | | | MCONT3 |
| 26 | S REEL DRV ON | P233-15A | | | | SRDRVON |
| 27 | | | | | | |
| 28 | -5V (D) | | | | | -5V (D) |
| 29 | +5V (D) | | | | | +5V (D) |
| 30 | +5V (D) | | | | | +5V (D) |
| 31 | GND (D) | | | | | GND (D) |
| 32 | GND (D) | | | | | GND (D) |

| P213 | C |
|---|---|
| 1 | GND (D) |
| 2 | AV AD 2 |
| 3 | AV AD 5 |
| 4 | AV ALE |
| 5 | AV AB 10 |
| 6 | AV AB 13 |
| 7 | AV SYS INT |
| 8 | AV BUSY |
| 9 | SYS RESET |
| 10 | SYS IORD |
| 11 | SYS IOWR |
| 12 | SYS MERD |
| 13 | SYS MEWR |
| 14 | SYS BUSY |
| 15 | SYS CS TC |
| 16 | SYS CS REMT |
| 17 | REMT INT |
| 18 | SYS CS VIDEO |
| 19 | |
| 20 | |
| 21 | REEL RST |
| 22 | MCONT 7 |
| 23 | T BRK ON |
| 24 | CLEAN ON |
| 25 | MOCNT 4 |
| 26 | MCONT 8 |
| 27 | |
| 28 | -5V (D) |
| 29 | +5V (D) |
| 30 | +5V (D) |
| 31 | GND (D) |
| 32 | GND (D) |

B

A

| P214 | A | S 7 FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | F-SER A DATA + | P246-1 | | | | FSERADA+ |
| 3 | F-SER A DATA - | P246-2 | | | | FSERADA- |
| 4 | F-SER A EN + | P246-3 | | | | FSERAEN+ |
| 5 | F-SER A EN - | P246-4 | | | | FSERAEN- |
| 6 | S-SER A DATA | P210-6A | | | | S-SADATA |
| 7 | S-SER B DATA | P210-7A | | | | S-SBDATA |
| 8 | S-SER CLK | P210-8A | | | | S-SCLK |
| 9 | S-FG | P210-9A | | | | SFG |
| 10 | CASS DET A | P242-2B | | | | CASSDETA |
| 11 | S PHOTO | P242-7B | | | | SPHOTO |
| 12 | T PHOTO | P242-8B | | | | TPHOTO |
| 13 | SUB LOAD START | P242-9B | | | | SLSTART |
| 14 | SUB LOAD END | P242-10B | | | | SLEND |
| 15 | CASS DET F | P242-11B | | | | CASSDETF |
| 16 | CASS DET R | P242-12B | | | | CASSDETR |
| 17 | CASS DET S | P242-13B | | | | CASSDETS |
| 18 | CASS DET T | P242-14B | | | | CASSDETT |
| 19 | SER H SW | P210-18A | P256-1 | P201-23B | | SERHSW |
| 20 | REC MODE | P256-4 | P202-22A | | | RECMODE |
| 21 | PB MODE | P202-21A | P204-21A | | | PBMODE |
| 22 | REC CURR CH0 | P240-1 | P202-22B | | | RECURCH0 |
| 23 | REC CURR CH1 | P240-2 | P202-21B | | | RECURCH1 |
| 24 | | | | | | |
| 25 | -5V (A) | | | | | -5V (A) |
| 26 | +5V (A) | | | | | +5V (A) |
| 27 | -12V (A) | | | | | -12V (A) |
| 28 | +12V (A) | | | | | +12V (A) |
| 29 | +15V (un) | | | | | +15V (UN) |
| 30 | +8V (un) | | | | | +8V (UN) |
| 31 | GND (A) | | | | | GND (A) |
| 32 | GND (A) | | | | | GND (A) |

| P214 | B | S 7 FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | F-SER B DATA + | P246-5 | | | | FSERBDA+ |
| 3 | F-SER B DATA - | P246-6 | | | | FSERBDA- |
| 4 | F-SER B EN + | P246-7 | | | | FSERBEN+ |
| 5 | F-SER B EN - | P246-8 | | | | FSERBEN- |
| 6 | SER_ADR0 | P210-6B | P208-6C | | | S-SAD0 |
| 7 | SER_ADR1 | P210-7B | P208-7C | | | S-SAD1 |
| 8 | SER_ADR2 | P210-8B | P208-8C | | | S-SAD2 |
| 9 | T-FG | P210-9B | | | | TFG |
| 10 | CASS DET B | P242-3B | | | | CASSDETB |
| 11 | CASS IN SW L | P242-5B | | | | CASSINL |
| 12 | CASS UP SW | P242-1A | | | | CASSUP |
| 13 | L CASS IN | P242-3A | | | | LCASSIN |
| 14 | MAIN LOAD START | P242-8A | | | | MLSTART |
| 15 | MAIN LOAD END | P242-9A | | | | MLEND |
| 16 | MAIN LOAD CENTER | P242-10A | | | | MLCENTER |
| 17 | SENS LED A | P242-12A | | | | SENSLEDA |
| 18 | SENS LED K | P242-13A | | | | SENSLEDK |
| 19 | AUTO OFF LAMP | P247-4 | | | | AOLAMP |
| 20 | SUB LOAD CEN | P242-1B | | | | SLCENTER |
| 21 | TEST MODE | P256-3 | P202-24A | | | TESTMODE |
| 22 | EQ GAIN CH0 | P202-23A | P204-24A | | | EGAINCH0 |
| 23 | EQ GAIN CH1 | P204-23A | | | | EGAINCH1 |
| 24 | | | | | | |
| 25 | -5V (A) | | | | | -5V (A) |
| 26 | +5V (A) | | | | | +5V (A) |
| 27 | -12V (A) | | | | | -12V (A) |
| 28 | +12V (A) | | | | | +12V (A) |
| 29 | +15V (un) | | | | | +15V (UN) |
| 30 | +8V (un) | | | | | +8V (UN) |
| 31 | GND (A) | | | | | GND (A) |
| 32 | GND (A) | | | | | GND (A) |

| P214 | C |
|---|---|
| 1 | |
| 2 | F-SER STB + |
| 3 | F-SER STB - |
| 4 | F-SER CLK + |
| 5 | F-SER CLK - |
| 6 | S-SER SEL 0 |
| 7 | S-SER SEL 1 |
| 8 | CAP DIR |
| 9 | CAP FGP |
| 10 | CASS DET C |
| 11 | CASS IN SW R |
| 12 | CASS DOWN SW |
| 13 | M CASS IN |
| 14 | REEL POS FRONT |
| 15 | REEL POS CENTER |
| 16 | REEL POS BACK |
| 17 | DEW SENS |
| 18 | EJECT KEY |
| 19 | EJECT LAMP |
| 20 | RF WFM SELECT 0 |
| 21 | RF WFM SELECT 1 |
| 22 | EQ FREQ CH 0 |
| 23 | EQ FREQ CH 1 |
| 24 | |
| 25 | -5V (A) |
| 26 | +5V (A) |
| 27 | -12V (A) |
| 28 | +12V (A) |
| 29 | +15V (un) |
| 30 | +8V (un) |
| 31 | GND (A) |
| 32 | GND (A) |

1 2 3 4

# GRAM (8/8) [S MOTHER (P213, P214) SCHEMATIC DIAGRAM (7/14) FOR S7]

| | GND (D) |
|---|---|
| | AVAD0 |
| | AVAD3 |
| | AVAD6 |
| | AVAB8 |
| | AVAB11 |
| | AVAB14 |
| | AVRD |
| | SYSDB0 |
| | SYSDB1 |
| | SYSDB2 |
| | SYSDB3 |
| | SYSDB4 |
| | SYSDB5 |
| | SYSDB6 |
| | SYSDB7 |
| | TCINT |
| | RECVSYNC |
| | RECCF |
| | ATRESET |
| | DRMRESET |
| | MCONT5 |
| | PINCHON |
| | MCONT1 |
| | MCONT2 |
| | TRDRVON |
| | -5V (D) |
| | +5V (D) |
| | +5V (D) |
| | GND (D) |
| | GND (D) |

**P213 · S 7**

| | B | FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | AV AD 1 | P245-29B | P215-2B | P217-2B | P211-2B |
| 3 | AV AD 4 | P245-26B | P215-3B | P217-3B | P211-3B |
| 4 | AV AD 7 | P245-23B | P215-4B | P217-4B | P211-4B |
| 5 | AV AB 9 | P245-20B | P215-5B | P217-5B | P211-5B |
| 6 | AV AB 12 | P245-17B | P215-6B | P217-6B | P211-6B |
| 7 | AV AB 15 | P245-14B | P215-7B | P217-7B | P211-7B |
| 8 | AV WR | P245-11B | P215-8B | P217-8B | P211-8B |
| 9 | SYS AB 0 | P260-1 | P211-9B | P241-4A | |
| 10 | SYS AB 1 | P260-2 | P211-10B | P241-5A | |
| 11 | SYS AB 2 | P260-3 | P211-11B | P241-6A | |
| 12 | SYS AB 3 | P260-4 | P211-12B | P241-7A | |
| 13 | SYS AB 4 | P260-5 | P211-13B | P241-8A | |
| 14 | SYS AB 5 | P260-6 | P211-14B | P241-9A | |
| 15 | SYS AB 6 | P260-7 | P211-15B | P241-10A | |
| 16 | SYS AB 7 | P260-8 | P211-16B | P241-11A | |
| 17 | SYS AB 8 | | P211-17B | | |
| 18 | SYS AB 9 | | P211-18B | | |
| 19 | SYS AB10 | | P211-19B | | |
| 20 | VCP RESET | P251-5B | | | |
| 21 | CAP RST | P209-21B | | | |
| 22 | MCONT 6 | P233-9A | | | |
| 23 | S BRK ON | P233-11B | | | |
| 24 | STP ON | P233-12B | | | |
| 25 | MCONT 3 | P233-14B | | | |
| 26 | S REEL DRV ON | P233-15A | | | |
| 27 | | | | | |
| 28 | -5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | +5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

| | GND (D) |
|---|---|
| | AVAD1 |
| | AVAD4 |
| | AVAD7 |
| | AVAB9 |
| | AVAB12 |
| | AVAB15 |
| | AVWR |
| | SYSAB0 |
| | SYSAB1 |
| | SYSAB2 |
| | SYSAB3 |
| | SYSAB4 |
| | SYSAB5 |
| | SYSAB6 |
| | SYSAB7 |
| | SYSAB8 |
| | SYSAB9 |
| | SYSAB10 |
| | AVRESET |
| | CAPRESET |
| | MCONT6 |
| | SBRKON |
| | STPON |
| | MCONT3 |
| | SRDRVON |
| | -5V (D) |
| | +5V (D) |
| | +5V (D) |
| | GND (D) |
| | GND (D) |

**P213 S7**

| | C | FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | AV AD 2 | P211-2C | P245-28B | P215-2C | P217-2C |
| 3 | AV AD 5 | P211-3C | P245-25B | P215-3C | P217-3C |
| 4 | AV ALE | P211-4C | P245-22B | P215-4C | P217-4C |
| 5 | AV AB 10 | P211-5C | P245-19B | P215-5C | P217-5C |
| 6 | AV AB 13 | P211-6C | P245-16B | P215-6C | P217-6C |
| 7 | AV SYS INT | P211-7C | P245-13B | | |
| 8 | AV BUSY | P211-8C | P245-10B | | |
| 9 | SYS RESET | P211-9C | P260-9 | P241-12B | P233-10A |
| 10 | SYS IORD | P211-10C | P260-10 | P241-12A | |
| 11 | SYS IOWR | P211-11C | P260-11 | P241-13A | |
| 12 | SYS MERD | P211-12C | | | |
| 13 | SYS MEWR | P211-13C | | | |
| 14 | SYS BUSY | P211-14C | | | |
| 15 | SYS CS TC | P211-15C | | | |
| 16 | SYS CS REMT | P211-16C | | | |
| 17 | REMT INT | P211-17C | | | |
| 18 | SYS CS VIDEO | P211-18C | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | REEL RST | P209-21C | | | |
| 22 | MCONT 7 | P233-16B | | | |
| 23 | T BRK ON | P233-11A | | | |
| 24 | CLEAN ON | P233-12A | | | |
| 25 | MOCNT 4 | P233-14A | | | |
| 26 | MCONT 8 | P233-16A | | | |
| 27 | | | | | |
| 28 | -5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | +5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

| | GND (D) |
|---|---|
| | AVAD2 |
| | AVAD5 |
| | AVALE |
| | AVAB10 |
| | AVAB13 |
| | AVSYSINT |
| | AVBUSY |
| | SYSRESET |
| | SYSIORD |
| | SYSIOWR |
| | SYSMERD |
| | SYSMEWR |
| | BUSY |
| | SYSCSTC |
| | SYSCREMT |
| | REMTINT |
| | RELRESET |
| | MCONT7 |
| | TBRKON |
| | CLENON |
| | MCONT4 |
| | MCONT8 |
| | -5V (D) |
| | +5V (D) |
| | +5V (D) |
| | GND (D) |
| | GND (D) |

| | FSERADA+ |
|---|---|
| | FSERADA- |
| | FSERAEN+ |
| | FSERAEN- |
| | S-SADATA |
| | S-SBDATA |
| | S-SCLK |
| | SFG |
| | CASSDETA |
| | SPHOTO |
| | TPHOTO |
| | SLSTART |
| | SLEND |
| | CASSDETF |
| | CASSDETR |
| | CASSDETS |
| | CASSDETT |
| | SERHSW |
| | RECMODE |
| | PBMODE |
| | RECURCH0 |
| | RECURCH1 |
| | -5V (A) |
| | +5V (A) |
| | -12V (A) |
| | +12V (A) |
| | +15V (UN) |
| | +8V (UN) |
| | GND (A) |
| | GND (A) |

**P214 S 7**

| | B | FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | F-SER B DATA + | P246-5 | | | |
| 3 | F-SER B DATA - | P246-6 | | | |
| 4 | F-SER B EN + | P246-7 | | | |
| 5 | F-SER B EN - | P246-8 | | | |
| 6 | SER_ADR0 | P210-6B | P208-6C | | |
| 7 | SER_ADR1 | P210-7B | P208-7C | | |
| 8 | SER_ADR2 | P210-8B | P208-8C | | |
| 9 | T-FG | P210-9B | | | |
| 10 | CASS DET B | P242-3B | | | |
| 11 | CASS IN SW L | P242-5B | | | |
| 12 | CASS UP SW | P242-1A | | | |
| 13 | L CASS IN | P242-3A | | | |
| 14 | MAIN LOAD START | P242-8A | | | |
| 15 | MAIN LOAD END | P242-9A | | | |
| 16 | MAIN LOAD CENTER | P242-10A | | | |
| 17 | SENS LED A | P242-12A | | | |
| 18 | SENS LED K | P242-13A | | | |
| 19 | AUTO OFF LAMP | P247-4 | | | |
| 20 | SUB LOAD CEN | P242-1B | | | |
| 21 | TEST MODE | P256-3 | P202-24A | | |
| 22 | EQ GAIN CH0 | P202-23A | P204-24A | | |
| 23 | EQ GAIN CH1 | P204-23A | | | |
| 24 | | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

| | FSERBDA+ |
|---|---|
| | FSERBDA- |
| | FSERBEN+ |
| | FSERBEN- |
| | S-SAD0 |
| | S-SAD1 |
| | S-SAD2 |
| | TFG |
| | CASSDETB |
| | CASSINL |
| | CASSUP |
| | LCASSIN |
| | MLSTART |
| | MLEND |
| | MLCENTER |
| | SENSLEDA |
| | SENSLEDK |
| | AOLAMP |
| | SLCENTER |
| | TESTMODE |
| | EGAINCH0 |
| | EGAINCH1 |
| | -5V (A) |
| | +5V (A) |
| | -12V (A) |
| | +12V (A) |
| | +15V (UN) |
| | +8V (UN) |
| | GND (A) |
| | GND (A) |

**P214 S7**

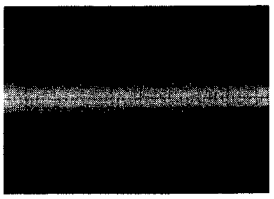
| | C | FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | F-SER STB + | P246-9 | | | |
| 3 | F-SER STB - | P246-10 | | | |
| 4 | F-SER CLK + | P246-11 | | | |
| 5 | F-SER CLK - | P246-12 | | | |
| 6 | S-SER SEL 0 | P210-6C | | | |
| 7 | S-SER SEL 1 | P210-7C | | | |
| 8 | CAP DIR | P210-8C | P216-8C | P251-20B | |
| 9 | CAP FGP | P210-9C | P216-9C | P251-19B | |
| 10 | CASS DET C | P242-4B | | | |
| 11 | CASS IN SW R | P242-6B | | | |
| 12 | CASS DOWN SW | P242-2A | | | |
| 13 | M CASS IN | P242-4A | | | |
| 14 | REEL POS FRONT | P242-5A | | | |
| 15 | REEL POS CENTER | P242-6A | | | |
| 16 | REEL POS BACK | P242-7A | | | |
| 17 | DEW SENS | P242-11A | | | |
| 18 | EJECT KEY | P247-1 | | | |
| 19 | EJECT LAMP | P247-2 | | | |
| 20 | RF WFM SELECT 0 | P202-21C | P204-21C | | |
| 21 | RF WFM SELECT 1 | P202-22C | P204-22C | | |
| 22 | EQ FREQ CH 0 | P202-23C | P204-24C | | |
| 23 | EQ FREQ CH 1 | P204-23C | | | |
| 24 | | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

| | FSERSTB+ |
|---|---|
| | FSERSTB- |
| | FSERCLK+ |
| | FSERCLK- |
| | S-SSEL0 |
| | S-SSEL1 |
| | CAPDIR |
| | CAPFG1 |
| | CASSDETC |
| | CASSINR |
| | CASSDOWN |
| | MCASSIN |
| | RPFRONT |
| | RPCENTER |
| | RPBACK |
| | DEWSENS |
| | EJECTKEY |
| | ELAMP |
| | RFWFM0 |
| | RFWFM1 |
| | EFREQCH0 |
| | EFREQCH1 |
| | -5V (A) |
| | +5V (A) |
| | -12V (A) |
| | +12V (A) |
| | +15V (UN) |
| | +8V (UN) |
| | GND (A) |
| | GND (A) |

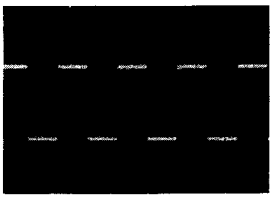
2 3 4 5 6

NTSC

## S8 WAVEFORMS NTSC

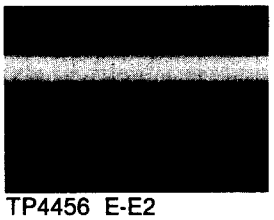


TP4101 E-E2
(TP4401, TP4402)
200mV/100μsec. div.



TP4451 E-E2
2V/10μsec. div.

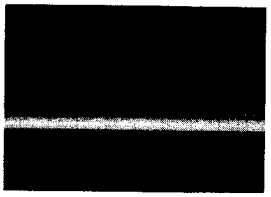
TP4453 E-E2
2V/1μsec. div.



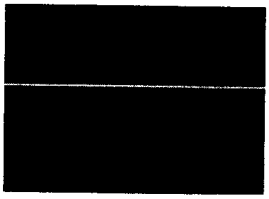
TP4456 E-E2
2V/20μsec. div.

**PAL**

## S8 WAVEFORMS PAL



TP4101 E-E2
(TP4401, TP4402, TP4451)
200mV/100μsec. div.



TP4456 E-E2
2V/50μsec. div.

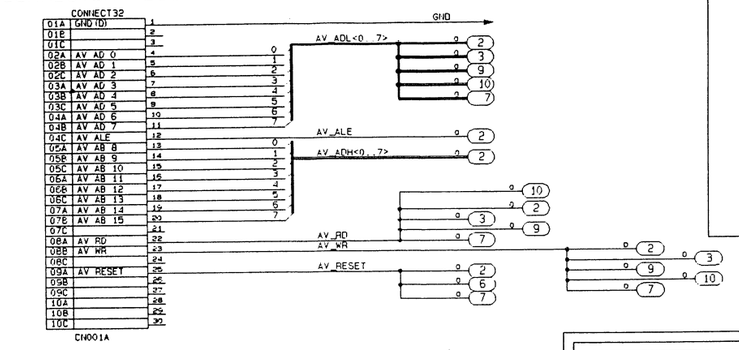
# S8 AUDIO PROCESS (CONNECT 1) SCHEMATIC DIAGRAM (1/13) [S MOTHER (P215, P216) SCHEMATIC DIAGRAM (8/14) FOR S

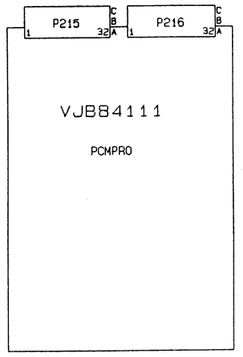
| P215 A | | S 8 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | AV AD 0 | P213-2A | P217-2A | P245-30B | P211-2A |
| 3 | AV AD 3 | P213-3A | P217-3A | P245-27B | P211-3A |
| 4 | AV AD 6 | P213-4A | P217-4A | P245-24B | P211-4A |
| 5 | AV AB 8 | P213-5A | P217-5A | P245-21B | P211-5A |
| 6 | AV AB 11 | P213-6A | P217-6A | P245-18B | P211-6A |
| 7 | AV AB 14 | P213-7A | P217-7A | P245-15B | P211-7A |
| 8 | AV RD | P213-8A | P217-8A | P245-12B | P211-8A |
| 9 | AV RESET | P217-9A | P245-11B | P245-9B | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | ASD 1 | P245-30A | | | |
| 13 | | | | | |
| 14 | DSD 1 | P245-28A | | | |
| 15 | | | | | |
| 16 | PBD 1 2 | P245-25A | | | |
| 17 | STD | P245-23A | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | MUTE 1 2 | P245-21A | | | |
| 21 | | | | | |
| 22 | VALIDF | P245-19A | | | |
| 23 | | | | | |
| 24 | AU DATA IN 0 | P245-16A | | | |
| 25 | AU DATA IN 3 | P245-13A | | | |
| 26 | AU DATA IN 6 | P245-10A | | | |
| 27 | | | | | |
| 28 | -5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | +5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

| P215 B | | S 8 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | AV AD 1 | P213-2B | P217-2B | P245-29B | P211-2B |
| 3 | AV AD 4 | P213-3B | P217-3B | P245-26B | P211-3B |
| 4 | AV AD 7 | P213-4B | P217-4B | P245-23B | P211-4B |
| 5 | AV AB 9 | P213-5B | P217-5B | P245-20B | P211-5B |
| 6 | AV AB 12 | P213-6B | P217-6B | P245-17B | P211-6B |
| 7 | AV AB 15 | P213-7B | P217-7B | P245-14B | P211-7B |
| 8 | AV WR | P213-8B | P217-8B | P245-11B | P211-8B |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | DSD L | P245-26A | | | |
| 16 | PBD 3 4 | P245-24A | | | |
| 17 | STFLG | P245-22A | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | MUTE 3 4 | P245-20A | | | |
| 21 | | | | | |
| 22 | PB5F | P245-18A | | | |
| 23 | | | | | |
| 24 | AU DATA IN 1 | P245-15A | | | |
| 25 | AU DATA IN 4 | P245-12A | | | |
| 26 | AU DATA IN 7 | P245-9A | | | |
| 27 | | | | | |
| 28 | -5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | +5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

| P215 C | | S 8 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | AV AD 2 | P213-2C | P217-2C | P245-28B | P211-2C |
| 3 | AV AD 5 | P213-3C | P217-3C | P245-25B | P211-3C |
| 4 | AV ALE | P213-4C | P217-4C | P245-22B | P211-4C |
| 5 | AV AB 10 | P213-5C | P217-5C | P245-19B | P211-5C |
| 6 | AV AB 13 | P213-6C | P217-6C | P245-16B | P211-6C |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | ASD 3 | P245-29A | | | |
| 13 | | | | | |
| 14 | DSD 3 | P245-27A | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | BLK_SYNC | P245-2A | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | FILD | P245-17A | | | |
| 23 | | | | | |
| 24 | AU DATA IN 2 | P245-14A | | | |
| 25 | AU DATA IN 5 | P245-11A | | | |
| 26 | | | | | |
| 27 | | | | | |
| 28 | -5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | +5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

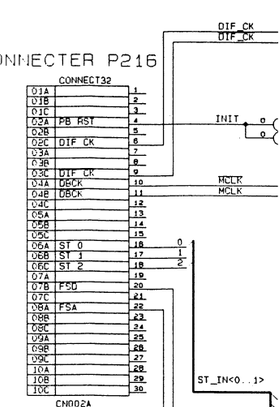
CONNECTER P215

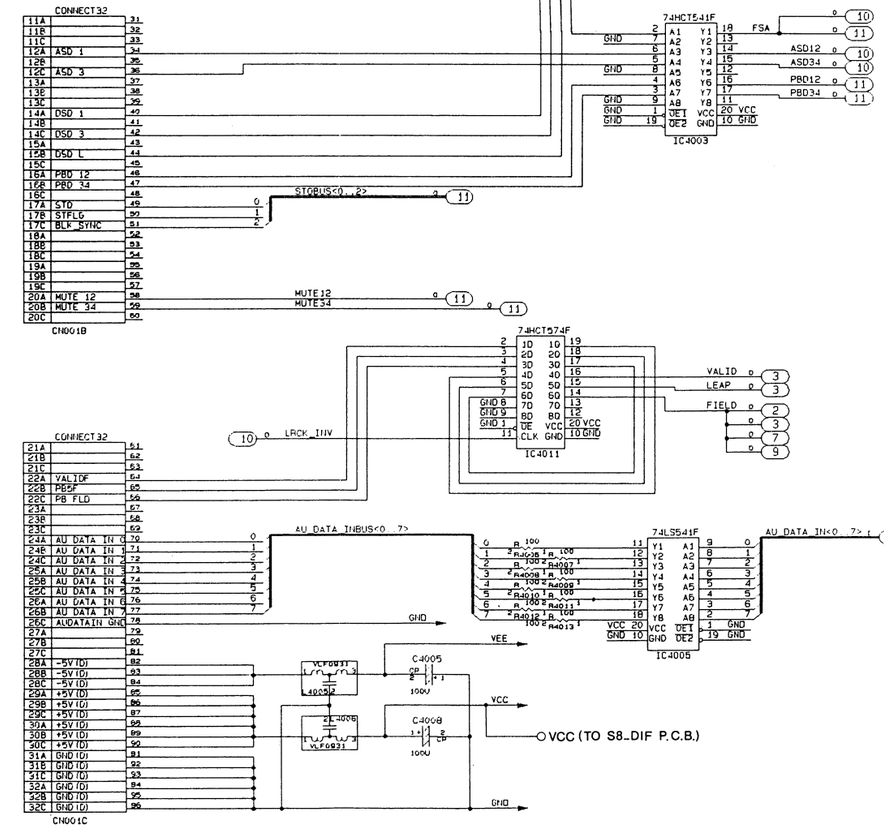


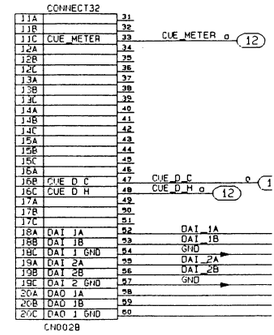

| P216 A | | S 8 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | PB RST (INIT) | P251-30B | | | |
| 3 | | | | | |
| 4 | DBCK | P268-4 | | | |
| 5 | BCK | P251-28B | | | |
| 6 | ST 0 | P251-26B | | | |
| 7 | ST 3 | P251-23B | | | |
| 8 | FSA | P251-21B | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | CUE D GND | P206-16A | | | |
| 17 | | | | | |
| 18 | DAI 1A | P269-1 | | | |
| 19 | DAI 2A | P269-4 | | | |
| 20 | DAO 1A | P269-7 | | | |
| 21 | DAO 2A | P269-10 | | | |
| 22 | VA CNT 1A | P270-1 | | | |
| 23 | VA CNT 2A | P270-4 | | | |
| 24 | | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

CONNECTER P216

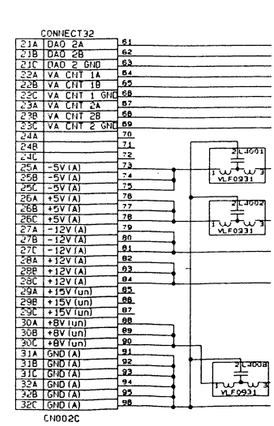



| P216 B | | S 8 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | FS 128 | P251-29B | | | |
| 3 | | | | | |
| 4 | DBCK | P268-5 | | | |
| 5 | WCK | P251-27B | | | |
| 6 | ST 1 | P251-25B | | | |
| 7 | FSD | P251-22B | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | CUE METER GND | P206-7B | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | CUE D C | P206-16B | | | |
| 17 | | | | | |
| 18 | DAI 1B | P269-2 | | | |
| 19 | DAI 2B | P269-5 | | | |
| 20 | DAO 1B | P269-8 | | | |
| 21 | DAO 2B | P269-11 | | | |
| 22 | VA CNT 1B | P270-2 | | | |
| 23 | VA CNT 2B | P270-5 | | | |
| 24 | | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |



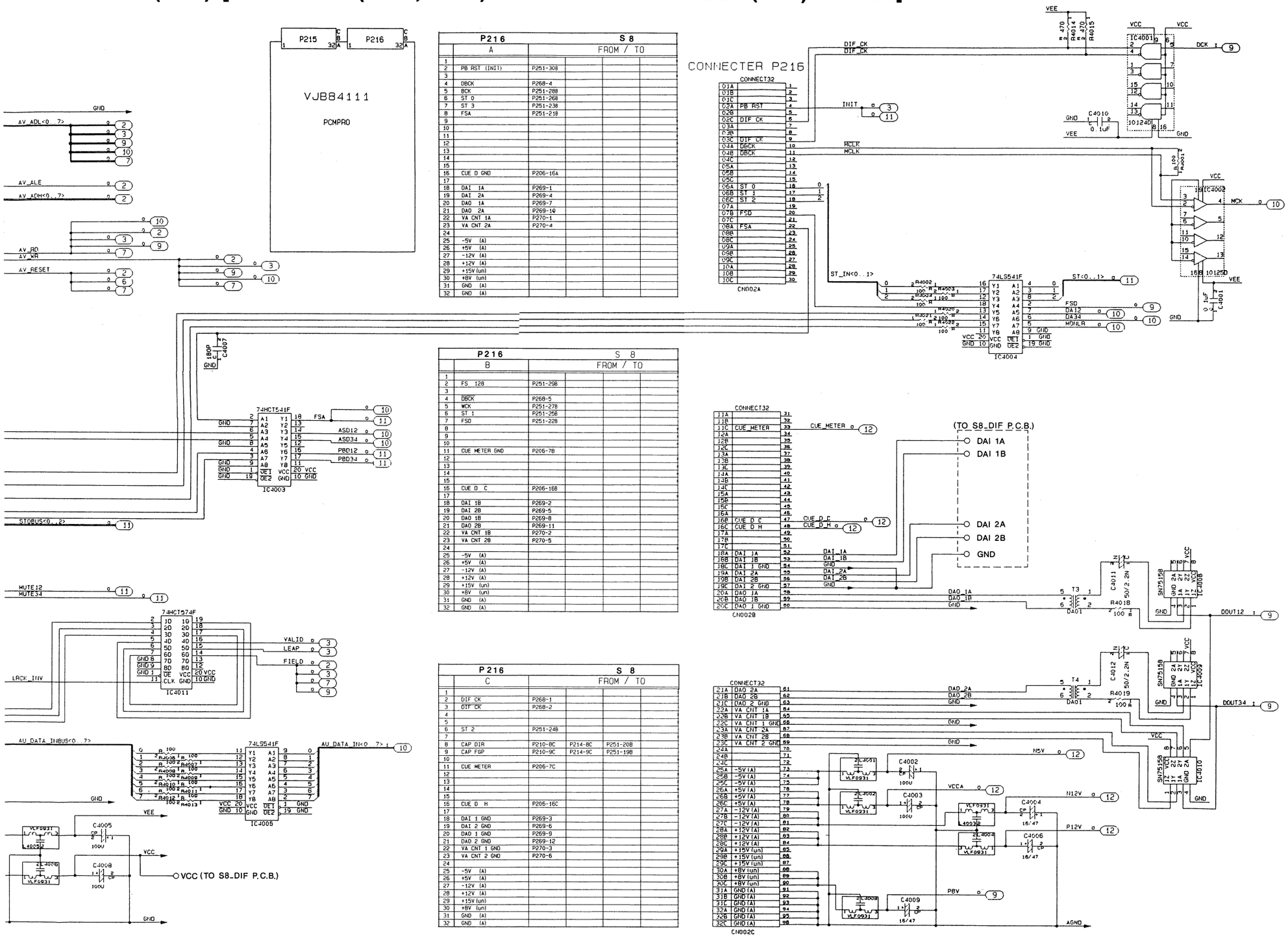

| P216 C | | S 8 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | DIF CK | P268-1 | | | |
| 3 | DIF CK | P268-2 | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | ST 2 | P251-24B | | | |
| 7 | | | | | |
| 8 | CAP DIR | P210-8C | P214-8C | P251-20B | |
| 9 | CAP FGP | P210-9C | P214-9C | P251-19B | |
| 10 | | | | | |
| 11 | CUE METER | P206-7C | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | CUE D H | P206-16C | | | |
| 17 | | | | | |
| 18 | DAI 1 GND | P269-3 | | | |
| 19 | DAI 2 GND | P269-6 | | | |
| 20 | DAO 1 GND | P269-9 | | | |
| 21 | DAO 2 GND | P269-12 | | | |
| 22 | VA CNT 1 GND | P270-3 | | | |
| 23 | VA CNT 2 GND | P270-6 | | | |
| 24 | | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |




E D C B A

1 2 3 4 5 6 7

# ΓIC DIAGRAM (1/13) [S MOTHER (P215, P216) SCHEMATIC DIAGRAM (8/14) FOR S8]

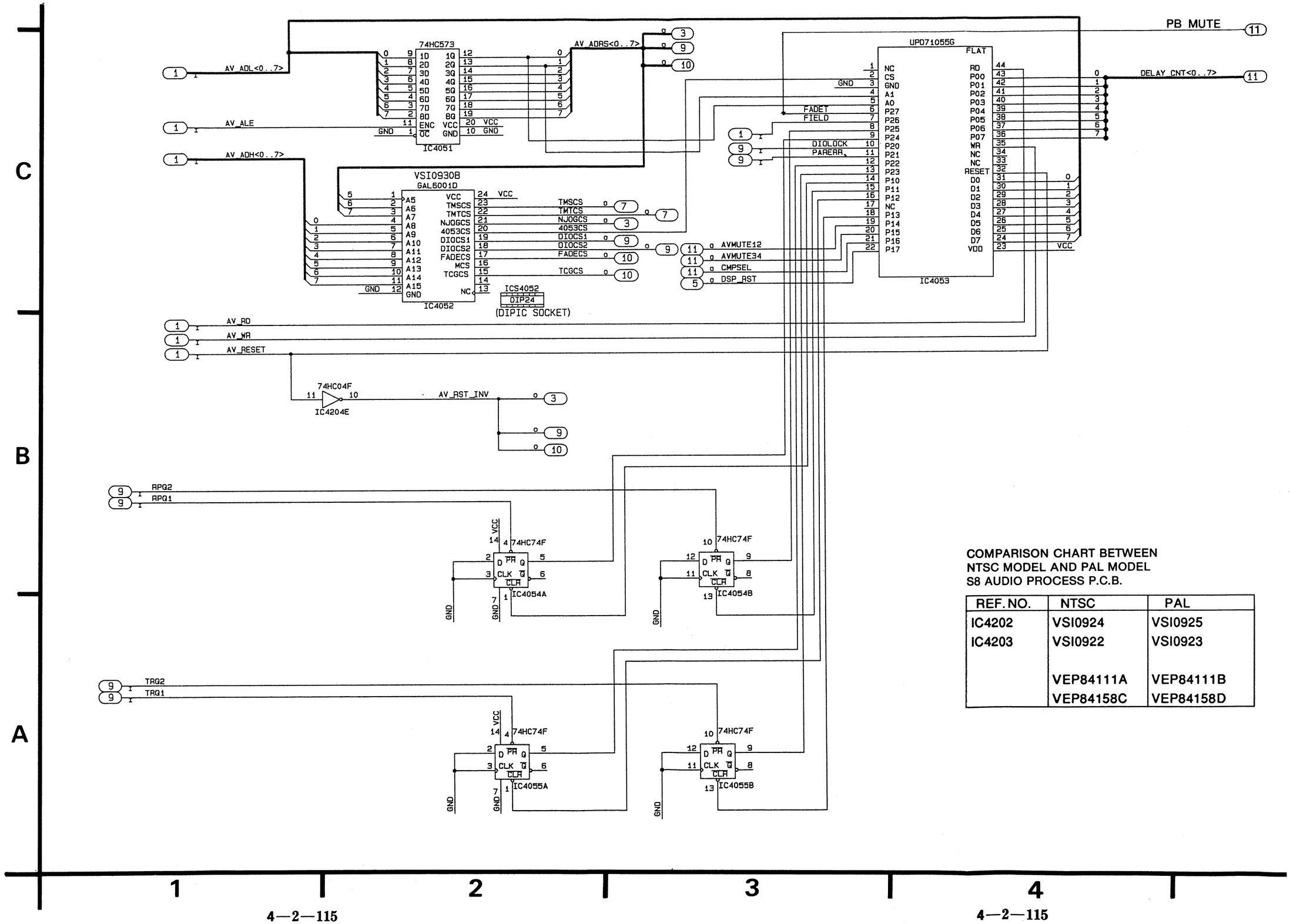



| P216 A | | S 8 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | PB RST (INIT) | P251-30B | | | |
| 3 | | | | | |
| 4 | DBCK | P268-4 | | | |
| 5 | BCK | P251-28B | | | |
| 6 | ST 0 | P251-26B | | | |
| 7 | ST 3 | P251-23B | | | |
| 8 | FSA | P251-21B | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | CUE D GND | P206-16A | | | |
| 17 | | | | | |
| 18 | DAI 1A | P269-1 | | | |
| 19 | DAI 2A | P269-4 | | | |
| 20 | DAO 1A | P269-7 | | | |
| 21 | DAO 2A | P269-10 | | | |
| 22 | VA CNT 1A | P270-1 | | | |
| 23 | VA CNT 2A | P270-4 | | | |
| 24 | | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

| P216 B | | S 8 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | FS 128 | P251-29B | | | |
| 3 | | | | | |
| 4 | DBCK | P268-5 | | | |
| 5 | WCK | P251-27B | | | |
| 6 | ST 1 | P251-25B | | | |
| 7 | FSD | P251-22B | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | CUE METER GND | P206-7B | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | CUE D C | P206-16B | | | |
| 17 | | | | | |
| 18 | DAI 1B | P269-2 | | | |
| 19 | DAI 2B | P269-5 | | | |
| 20 | DAO 1B | P269-8 | | | |
| 21 | DAO 2B | P269-11 | | | |
| 22 | VA CNT 1B | P270-2 | | | |
| 23 | VA CNT 2B | P270-5 | | | |
| 24 | | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

| P216 C | | S 8 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | DIF CK | P268-1 | | | |
| 3 | DIF CK | P268-2 | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | ST 2 | P251-24B | | | |
| 7 | | | | | |
| 8 | CAP DIR | P210-8C | P214-8C | P251-20B | |
| 9 | CAP FGP | P210-9C | P214-9C | P251-19B | |
| 10 | | | | | |
| 11 | CUE METER | P206-7C | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | CUE D H | P206-16C | | | |
| 17 | | | | | |
| 18 | DAI 1 GND | P269-3 | | | |
| 19 | DAI 2 GND | P269-6 | | | |
| 20 | DAO 1 GND | P269-9 | | | |
| 21 | DAO 2 GND | P269-12 | | | |
| 22 | VA CNT 1 GND | P270-3 | | | |
| 23 | VA CNT 2 GND | P270-6 | | | |
| 24 | | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V (un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

# S8 AUDIO PROCESS (CONNECT 2) SCHEMATIC DIAGRAM (2/13)

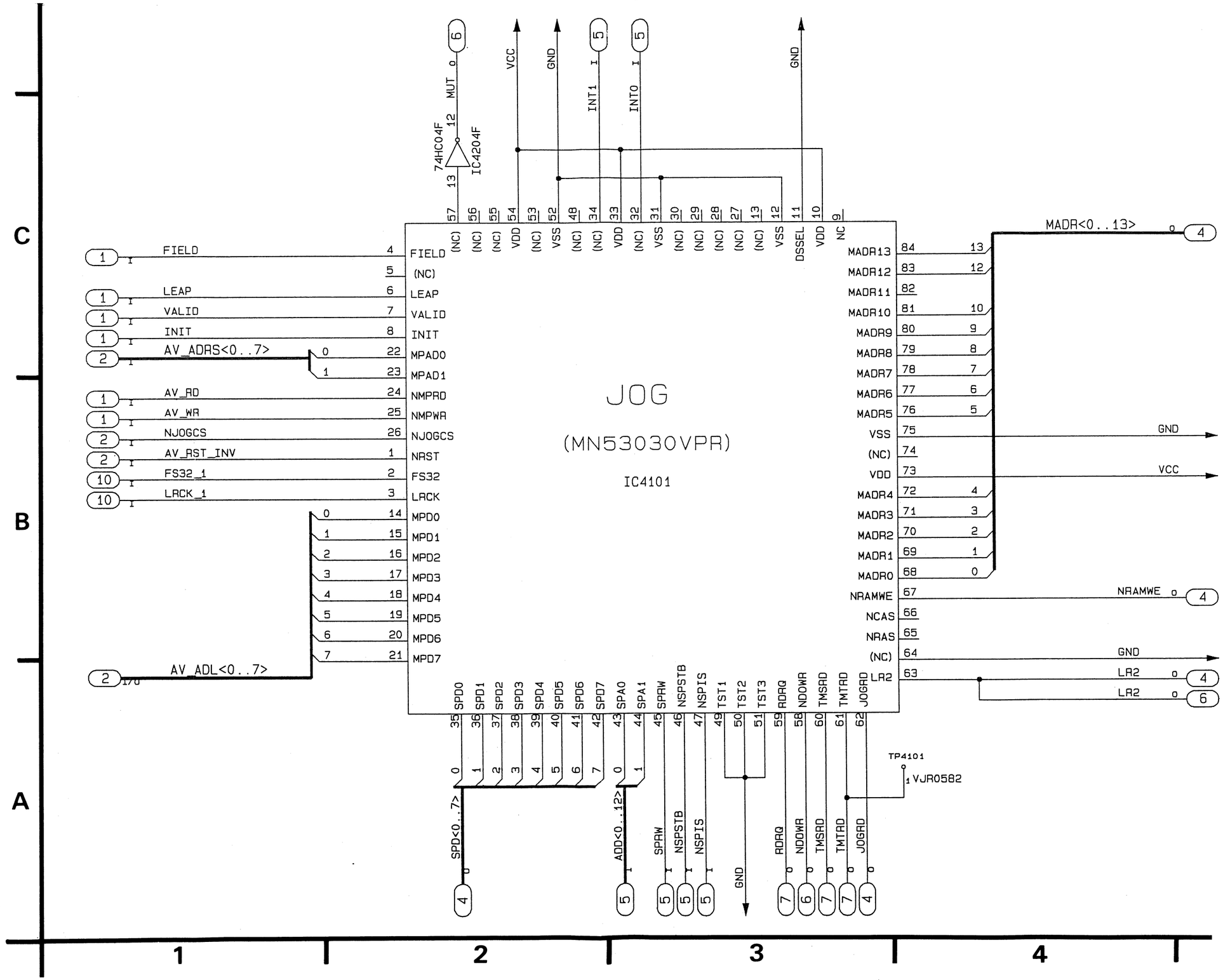



**COMPARISON CHART BETWEEN NTSC MODEL AND PAL MODEL S8 AUDIO PROCESS P.C.B.**

| REF. NO. | NTSC | PAL |
|---|---|---|
| IC4202 | VSI0924 | VSI0925 |
| IC4203 | VSI0922 | VSI0923 |
| | VEP84111A | VEP84111B |
| | VEP84158C | VEP84158D |


4—2—115

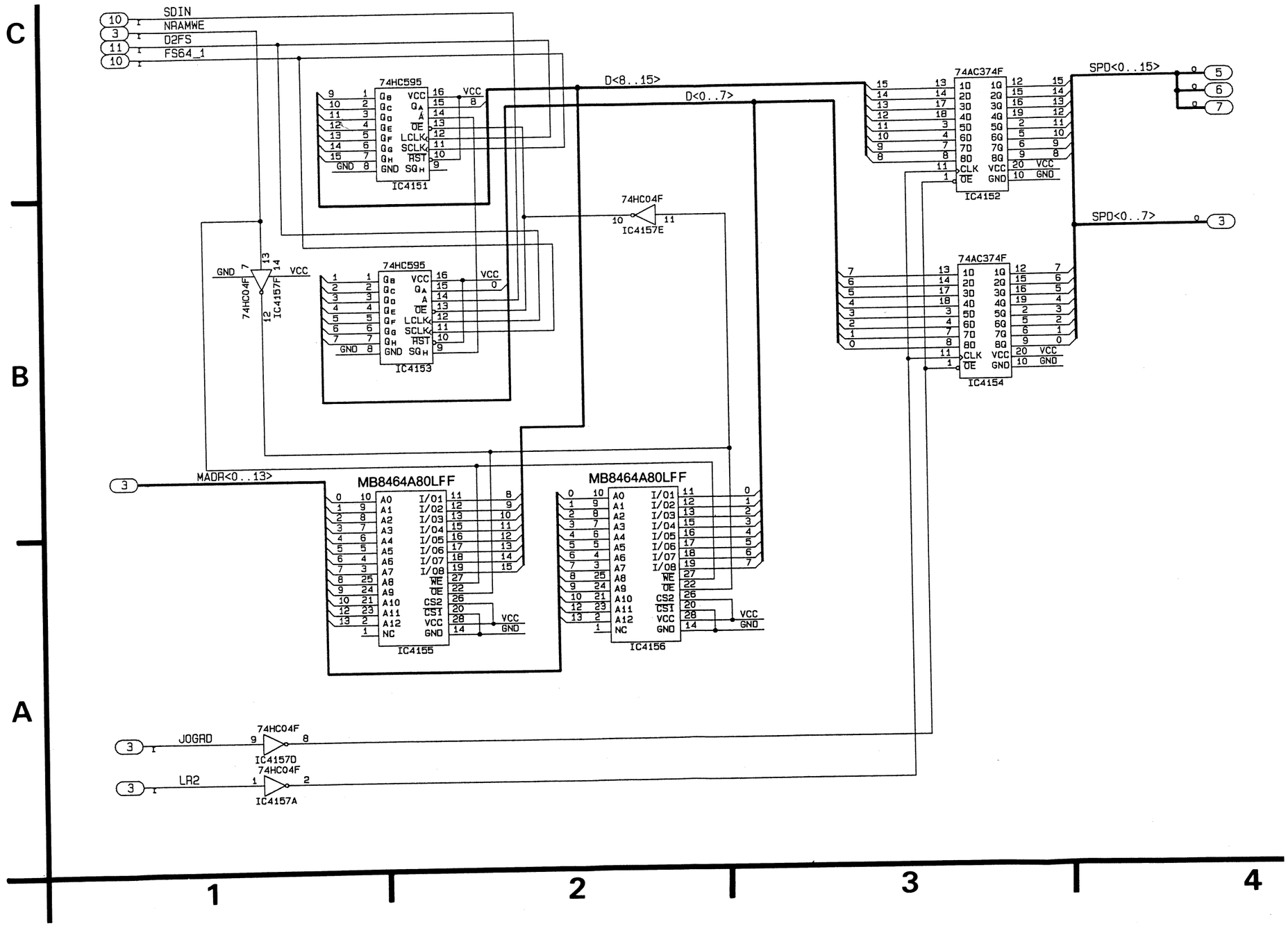
# S8 AUDIO PROCESS (J GATE) SCHEMATIC DIAGRAM (3/13)




4—2—116

4—2—116

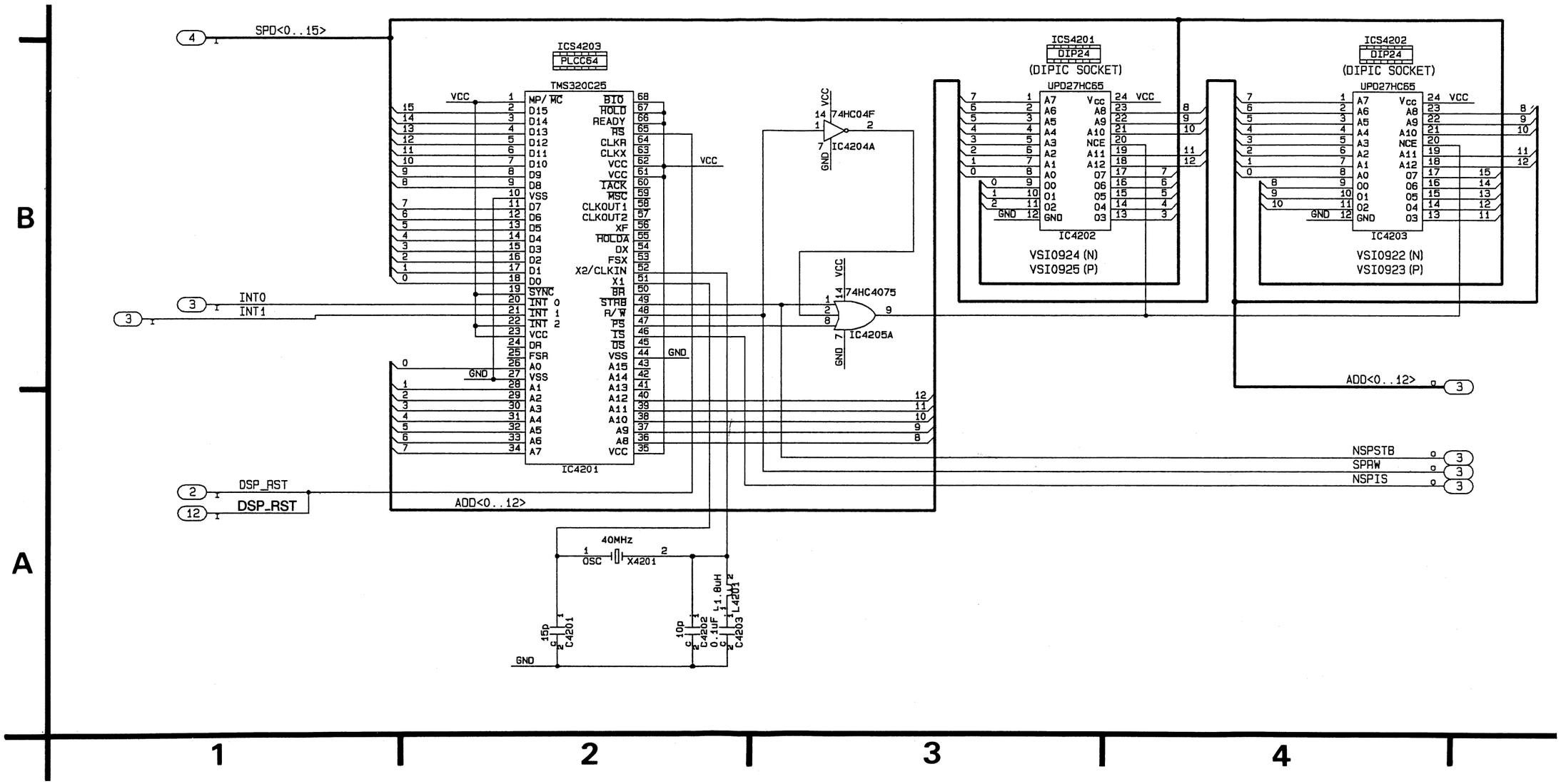
# S8 AUDIO PROCESS (JOG/MEM) SCHEMATIC DIAGRAM (4/13)






4—2—117

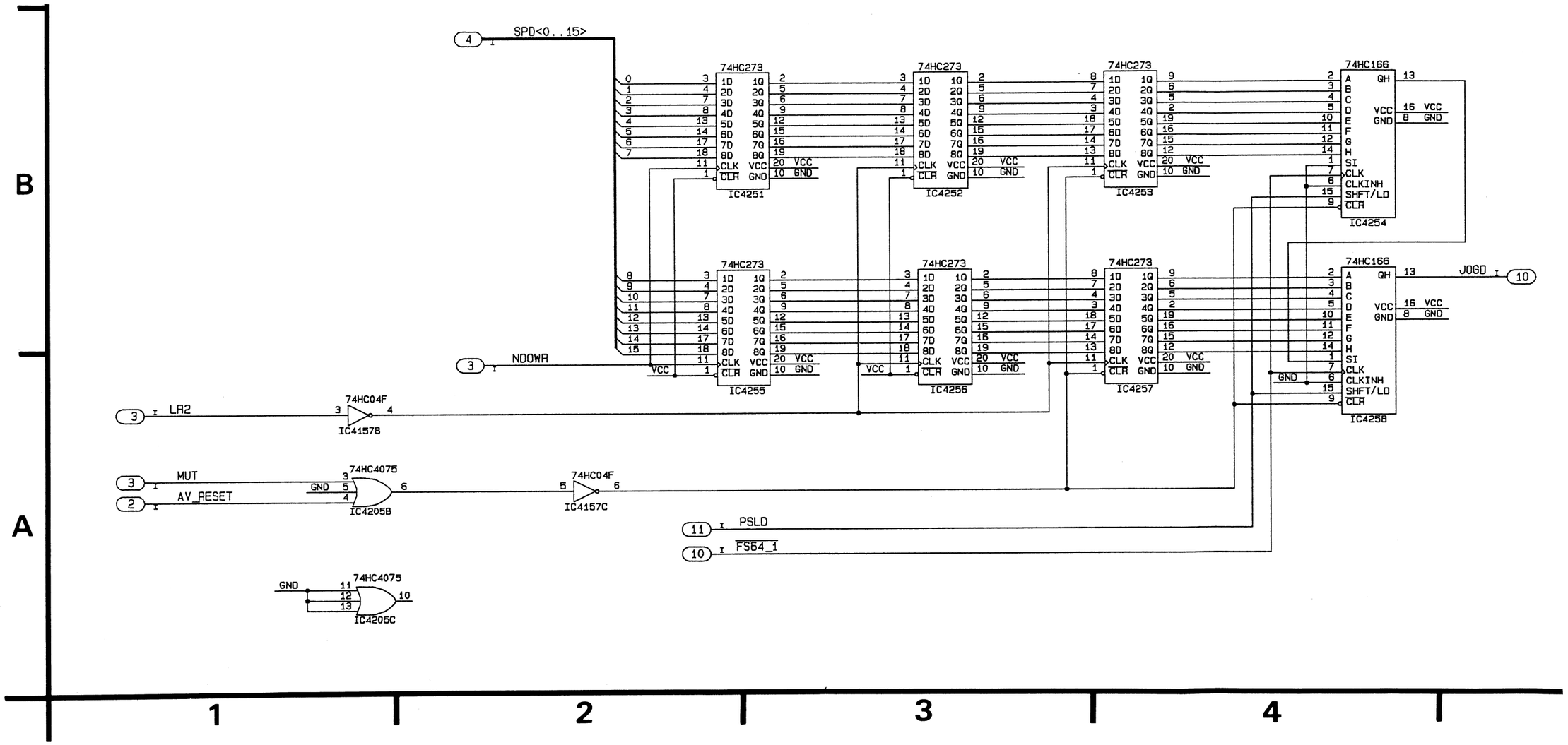
# S8 AUDIO PROCESS (JOG/FLT) SCHEMATIC DIAGRAM (5/13)






4—2—118

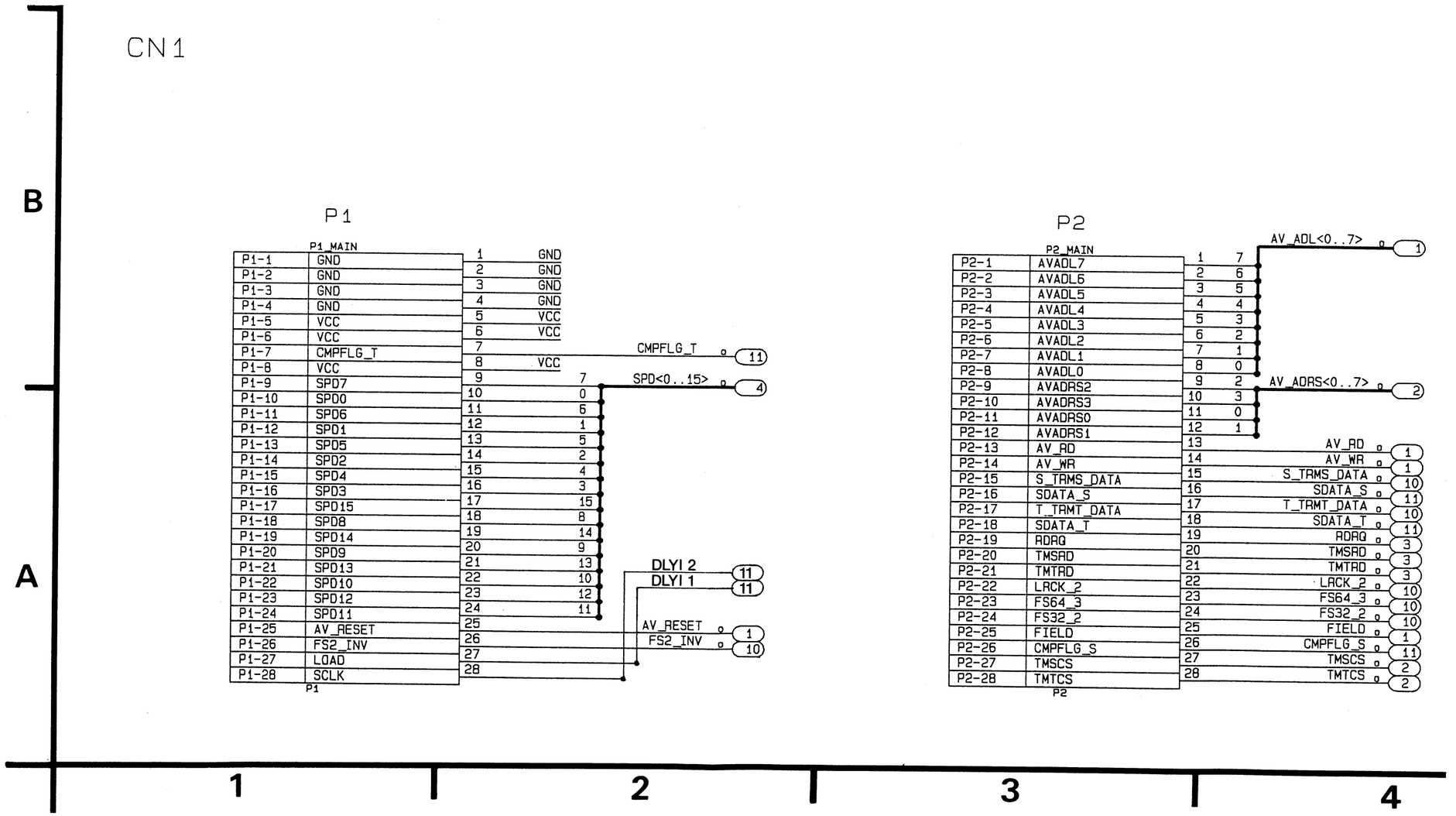
# S8 AUDIO PROCESS (JOG/D OUT) SCHEMATIC DIAGRAM (6/13)






4—2—119

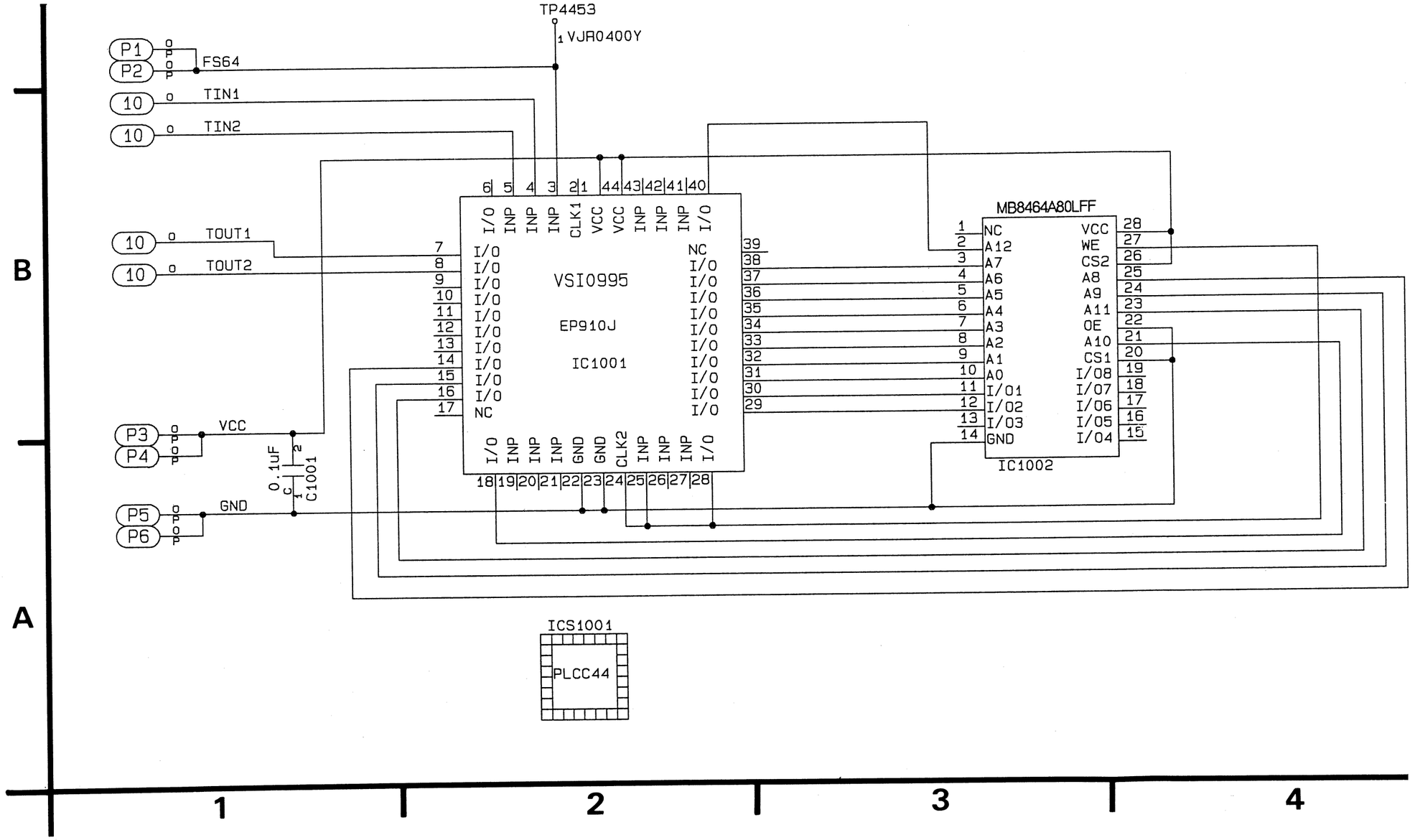
# S8 AUDIO PROCESS (MAIN-SUB) SCHEMATIC DIAGRAM (7/13)






4—2—120

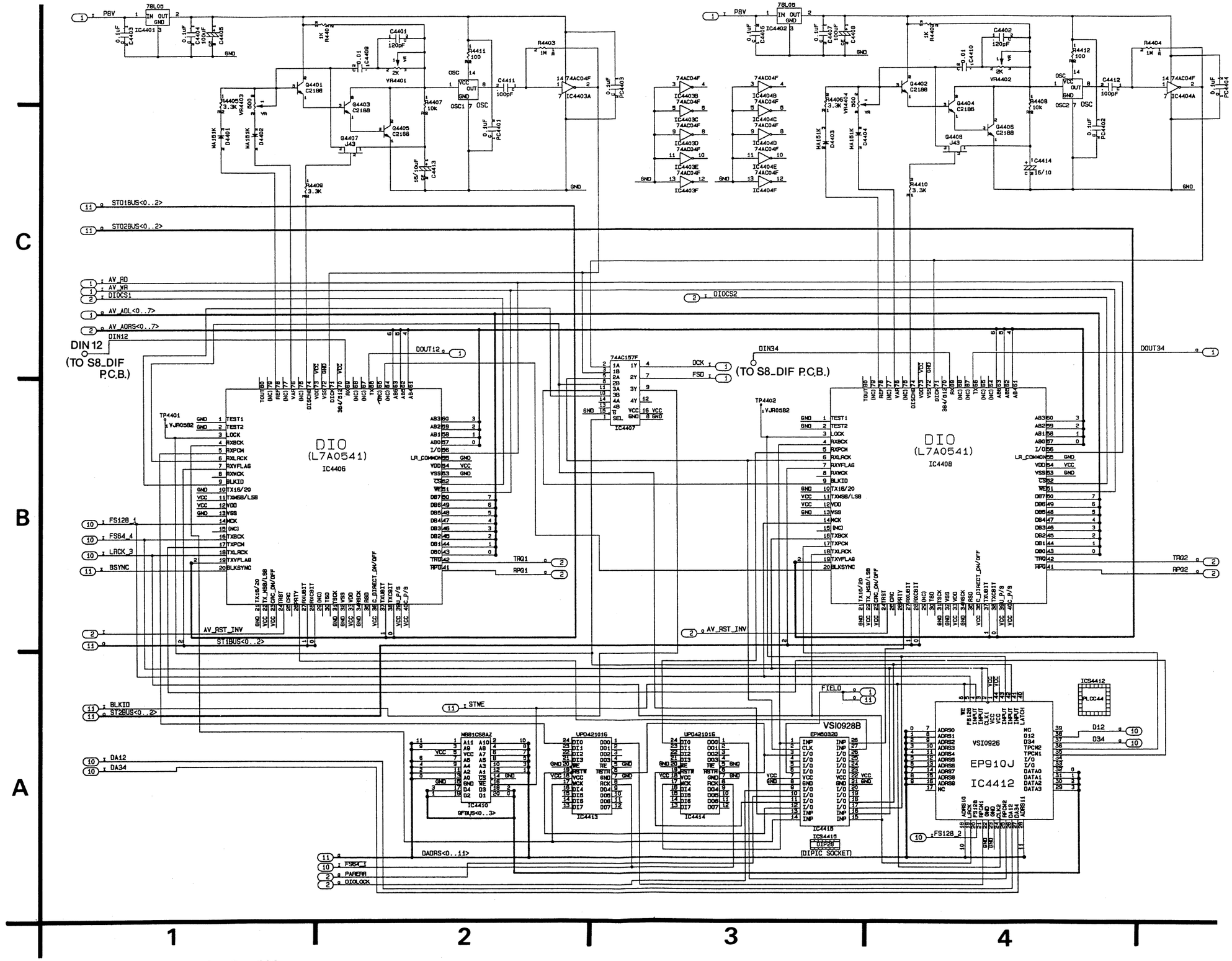
# S8 AUDIO PROCESS (PRE DELAY) (AUDIO PROCESS SUB) SCHEMATIC DIAGRAM (8/13)






4—2—121

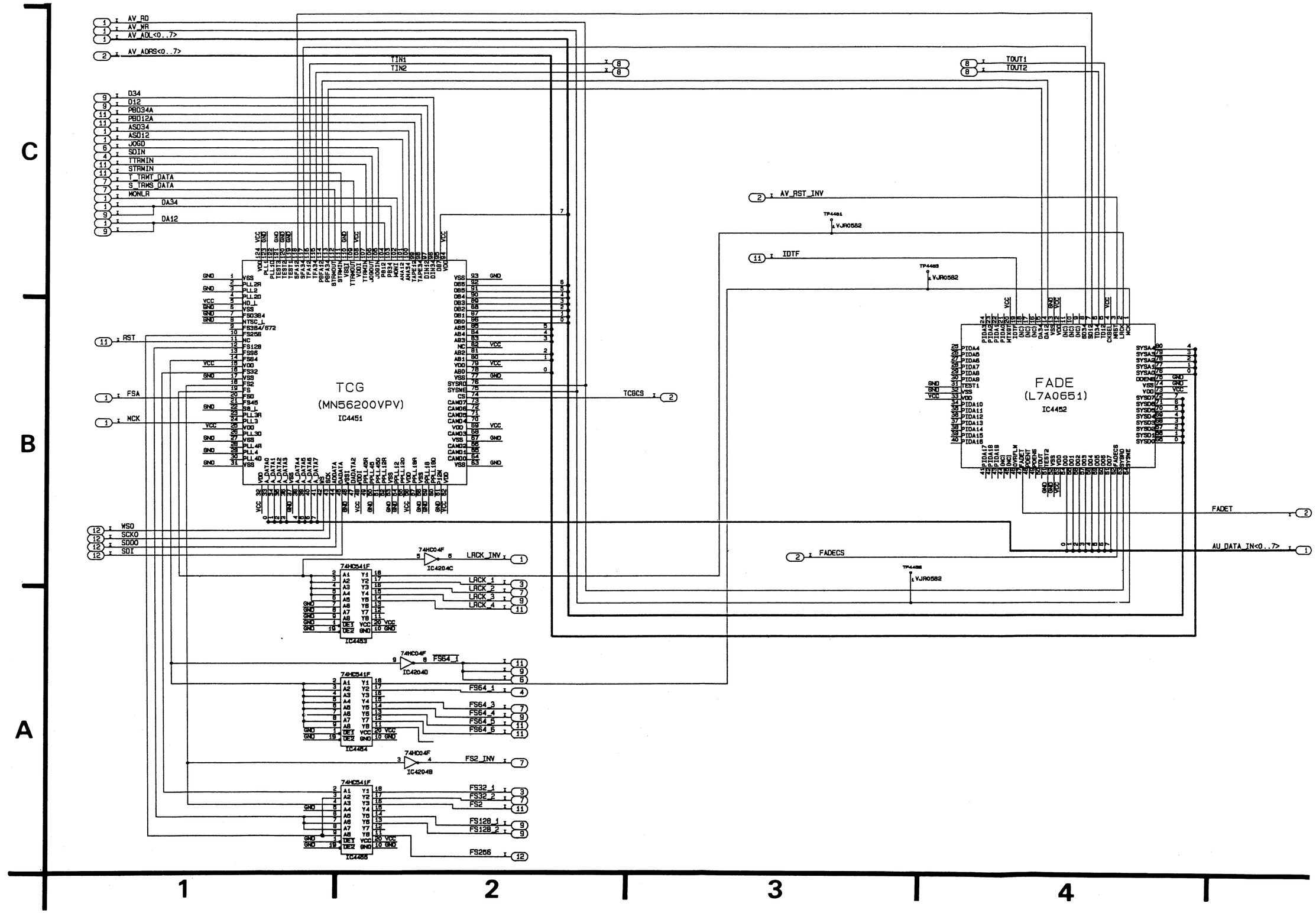
# S8 AUDIO PROCESS (DIGITAL I/F) SCHEMATIC DIAGRAM (9/13)






4—2—122

# S8 AUDIO PROCESS (FADE) SCHEMATIC DIAGRAM (10/13)



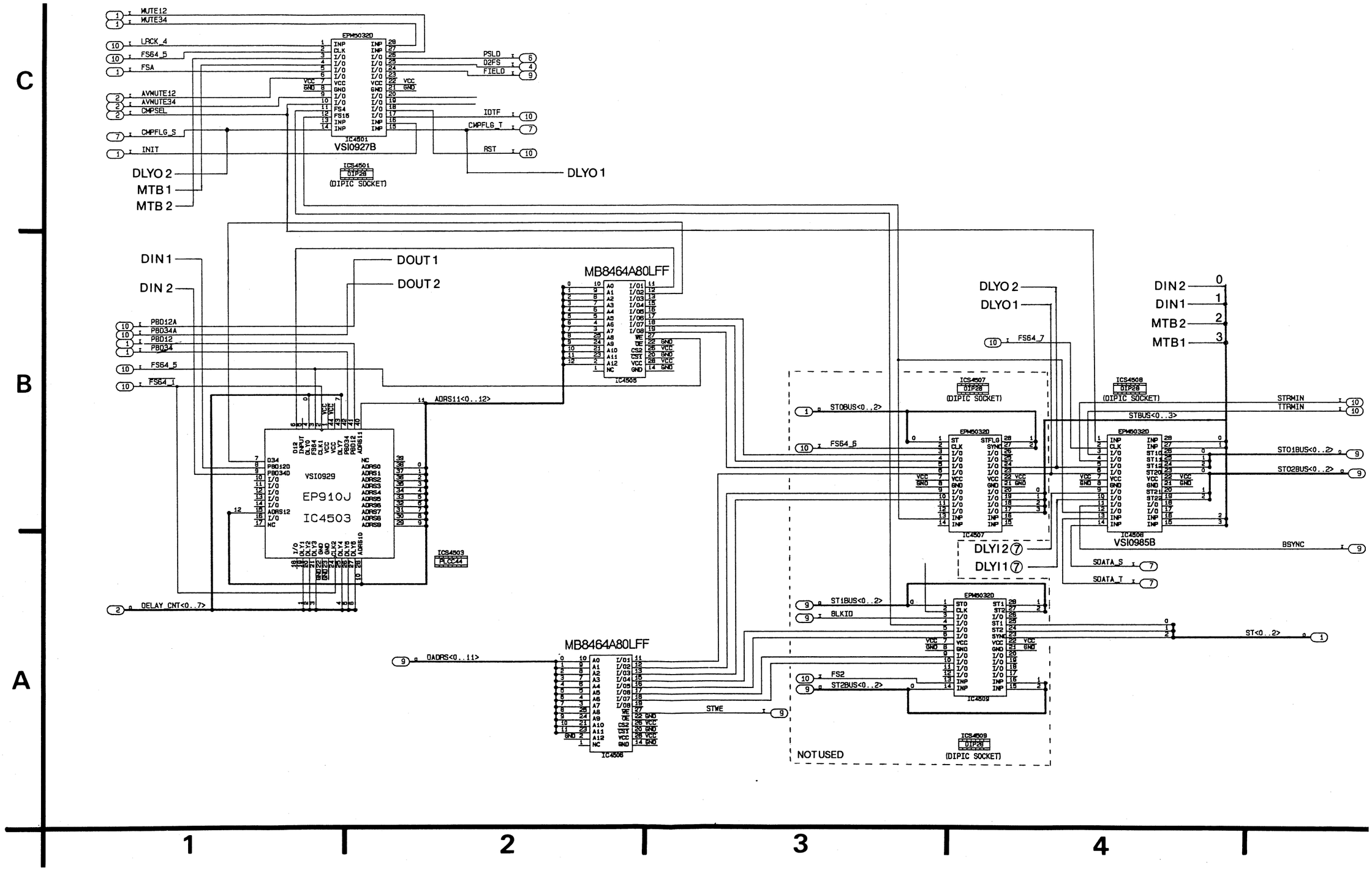

C B A

1 2 3 4



4—2—123

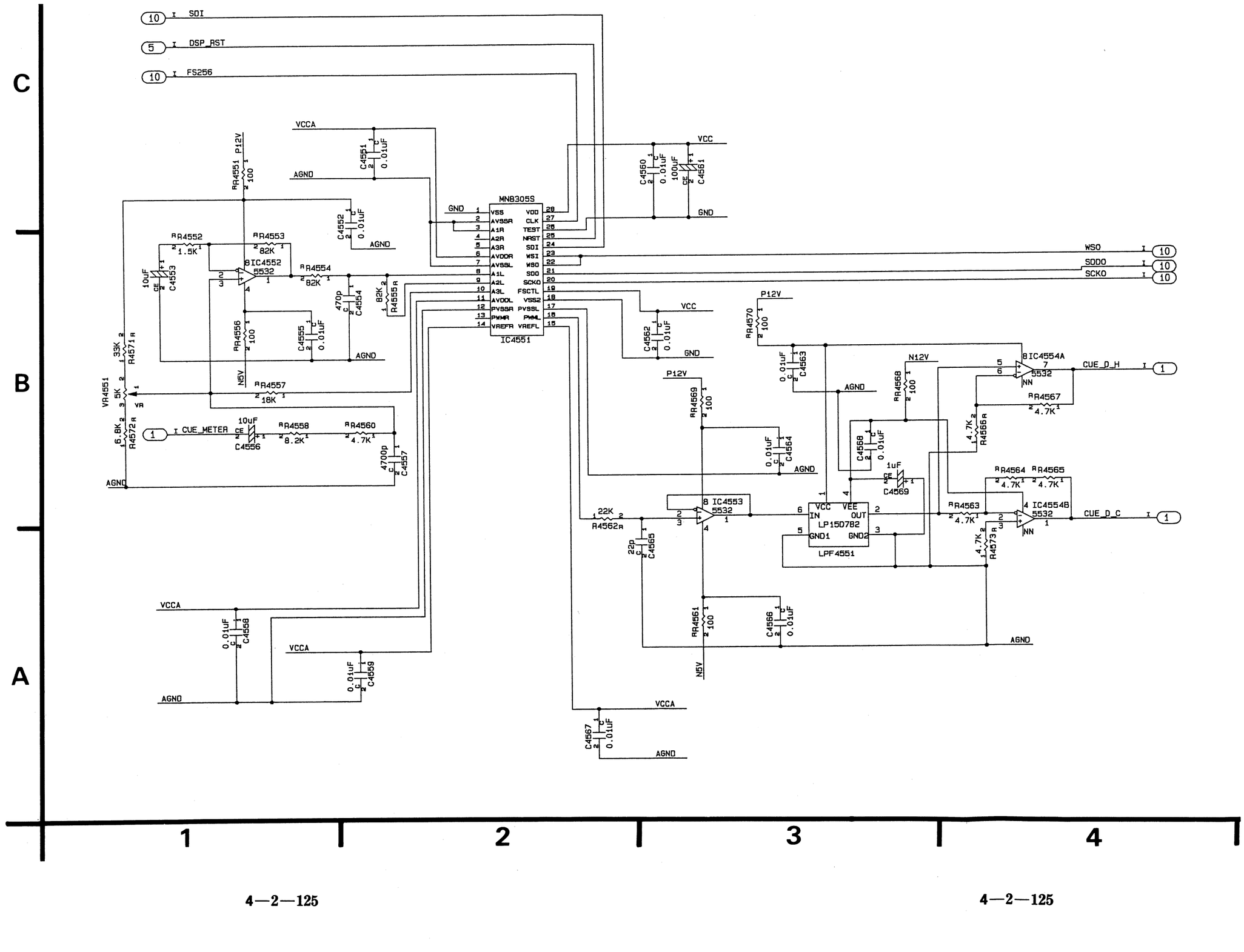
# S8 AUDIO PROCESS (D CNT) SCHEMATIC DIAGRAM (11/13)






4—2—124

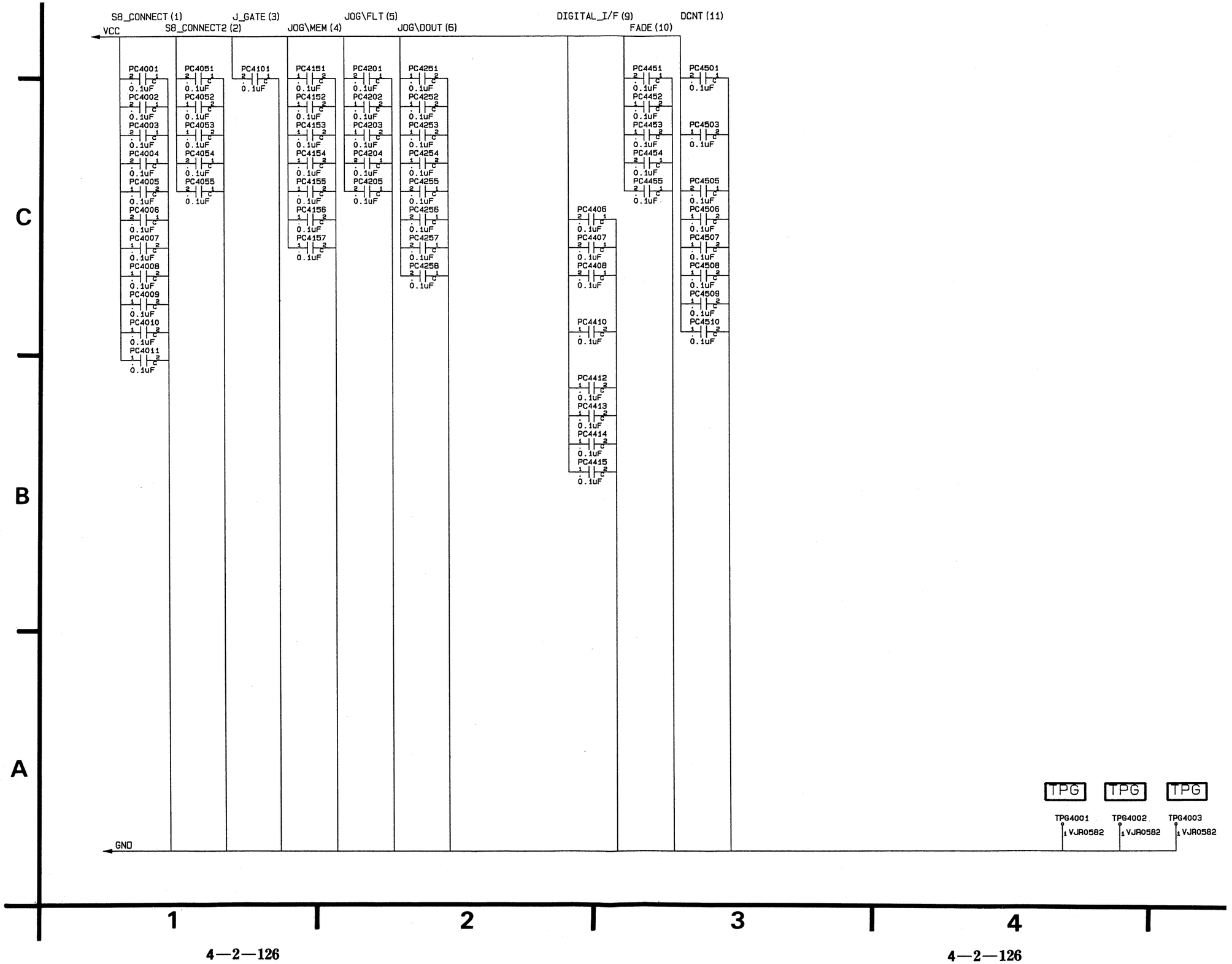
# S8 AUDIO PROCESS (D/A CON) SCHEMATIC DIAGRAM (12/13)






4—2—125

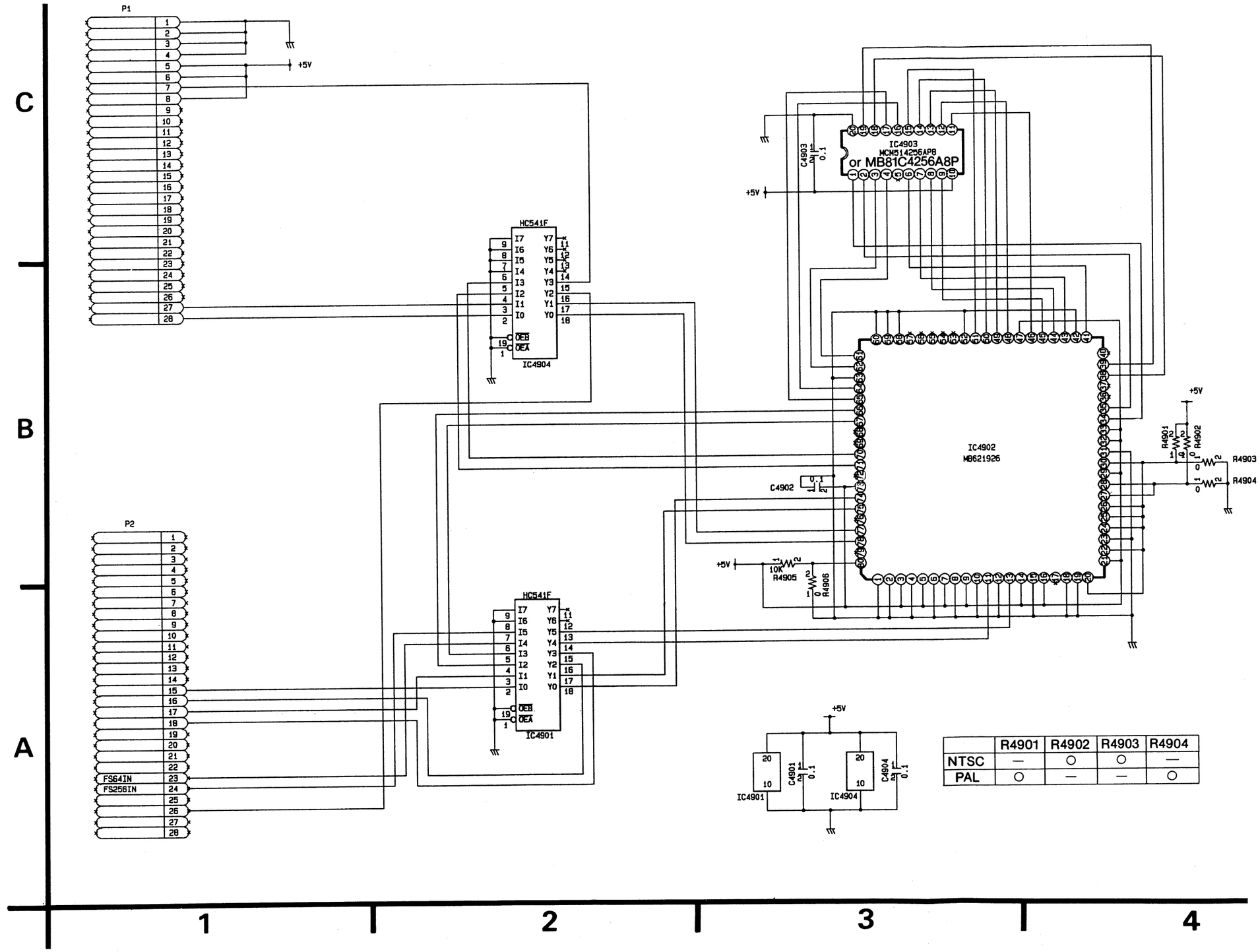
# S8 AUDIO PROCESS (PASS CON) SCHEMATIC DIAGRAM (13/13)






4—2—126

# S8 AUDIO PROCESS SUB (3V DELAY) SCHEMATIC DIAGRAM (1/3)

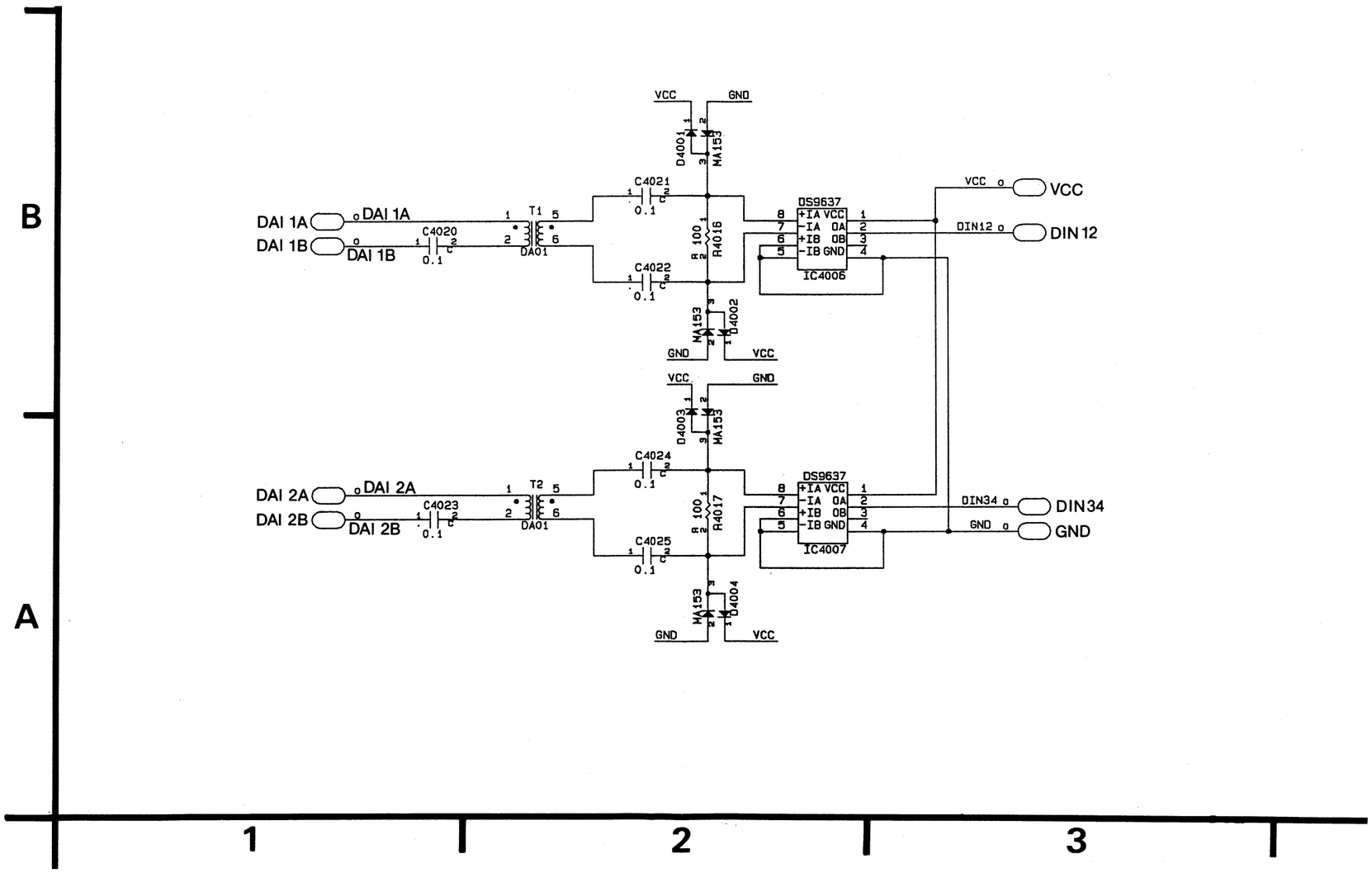



| | R4901 | R4902 | R4903 | R4904 |
|---|---|---|---|---|
| NTSC | — | ○ | ○ | — |
| PAL | ○ | — | — | ○ |



4—2—127

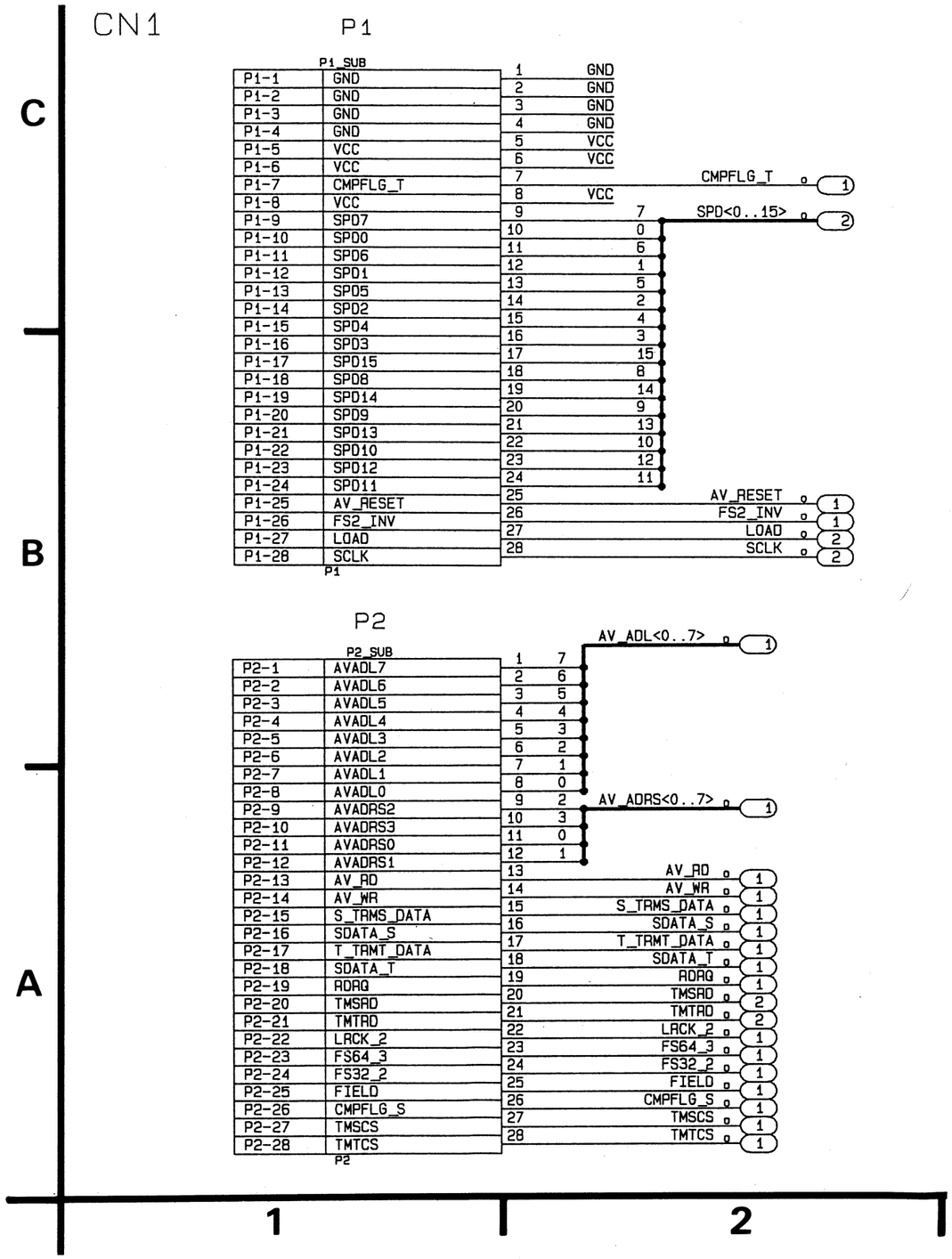
# S8 AUDIO PROCESS SUB (TRM MEM) SCHEMATIC DIAGRAM (2/3)






4—2—128

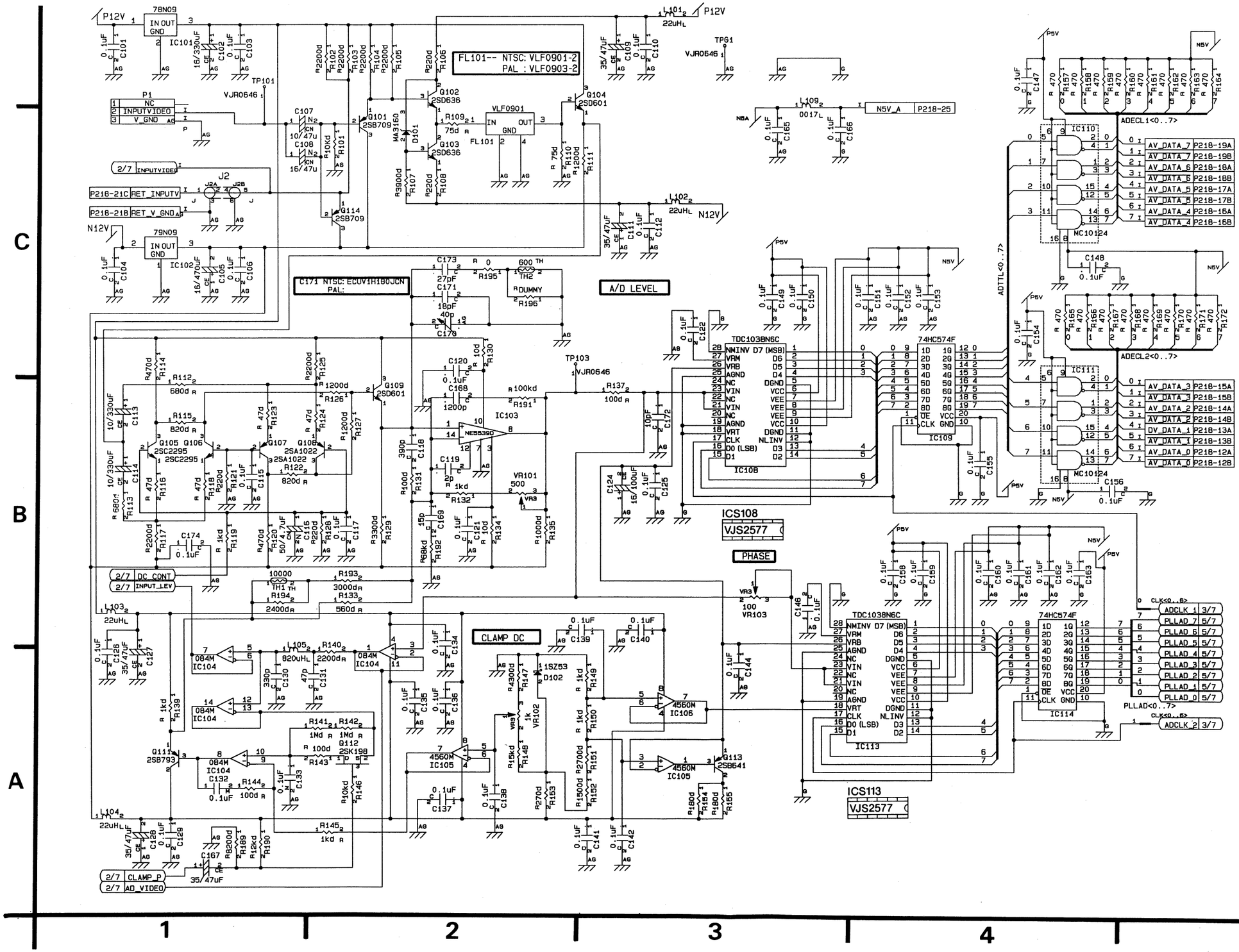
# S8 AUDIO PROCESS SUB (MAIN-SUB)
# SCHEMATIC DIAGRAM (3/3)






4—2—129

# S9 VIDEO A/D PLL SCHEMATIC DIAGRAM (1/7)

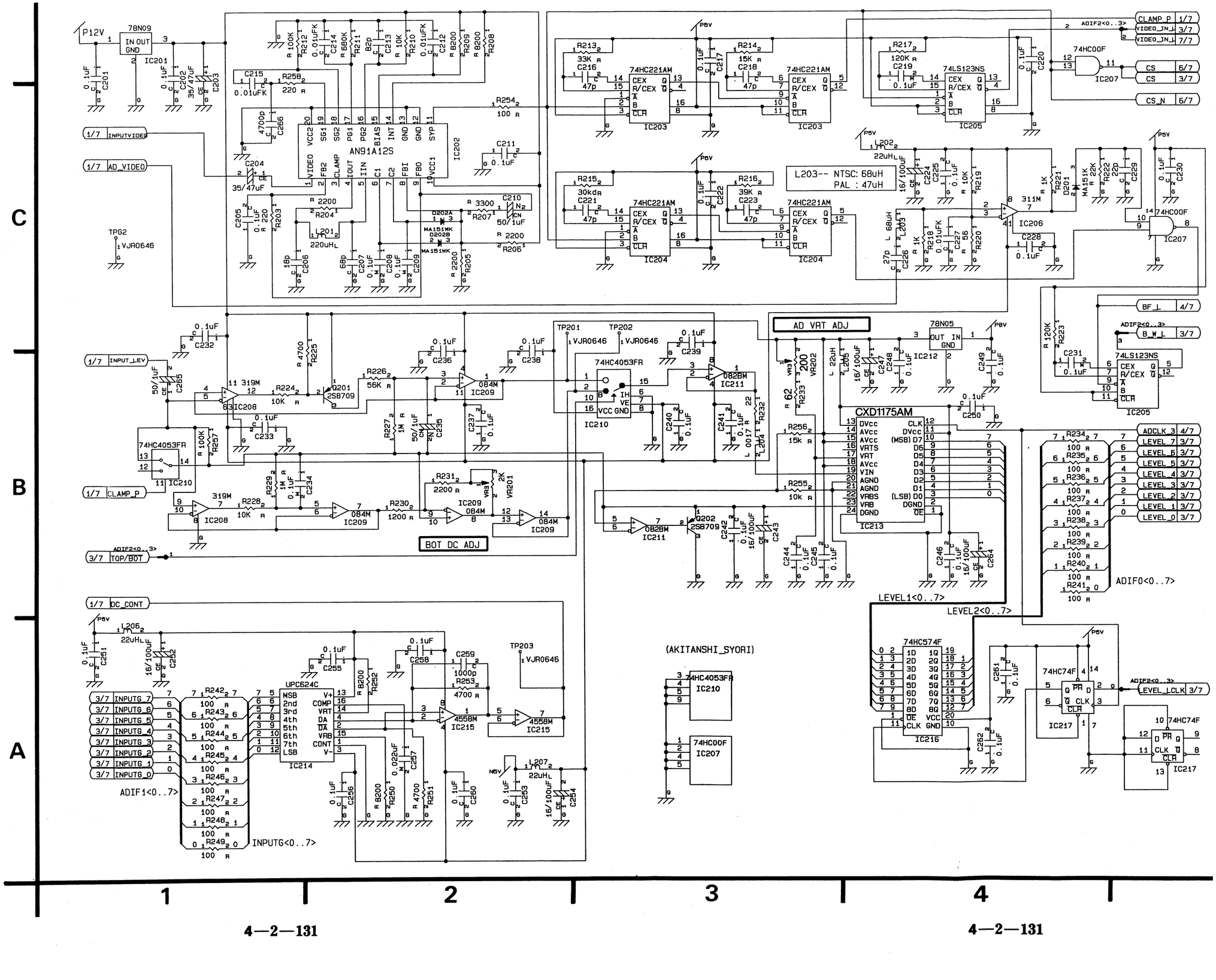



COMPARISON CHART BETWEEN
NTSC MODEL AND PAL MODEL
S9 VIDEO A/D PLL P.C.B.

| REF. NO. | NTSC | PAL |
|---|---|---|
| IC1 | ----- | VSI1209 |
| IC2 | ----- | VSI1210 |
| IC410 | ----- | VSI0880 |
| IC502 | VSI0878 | VSI0877 |
| IC611 | VSI0981B | VSI0881C |
| FL101 | VLF0910 | VLF0903 |
| X402 | VSX0338 | VSX0270 |
| | VEP88073A | VEP88073B |
| | ----- | VEP88100B |


4—2—130

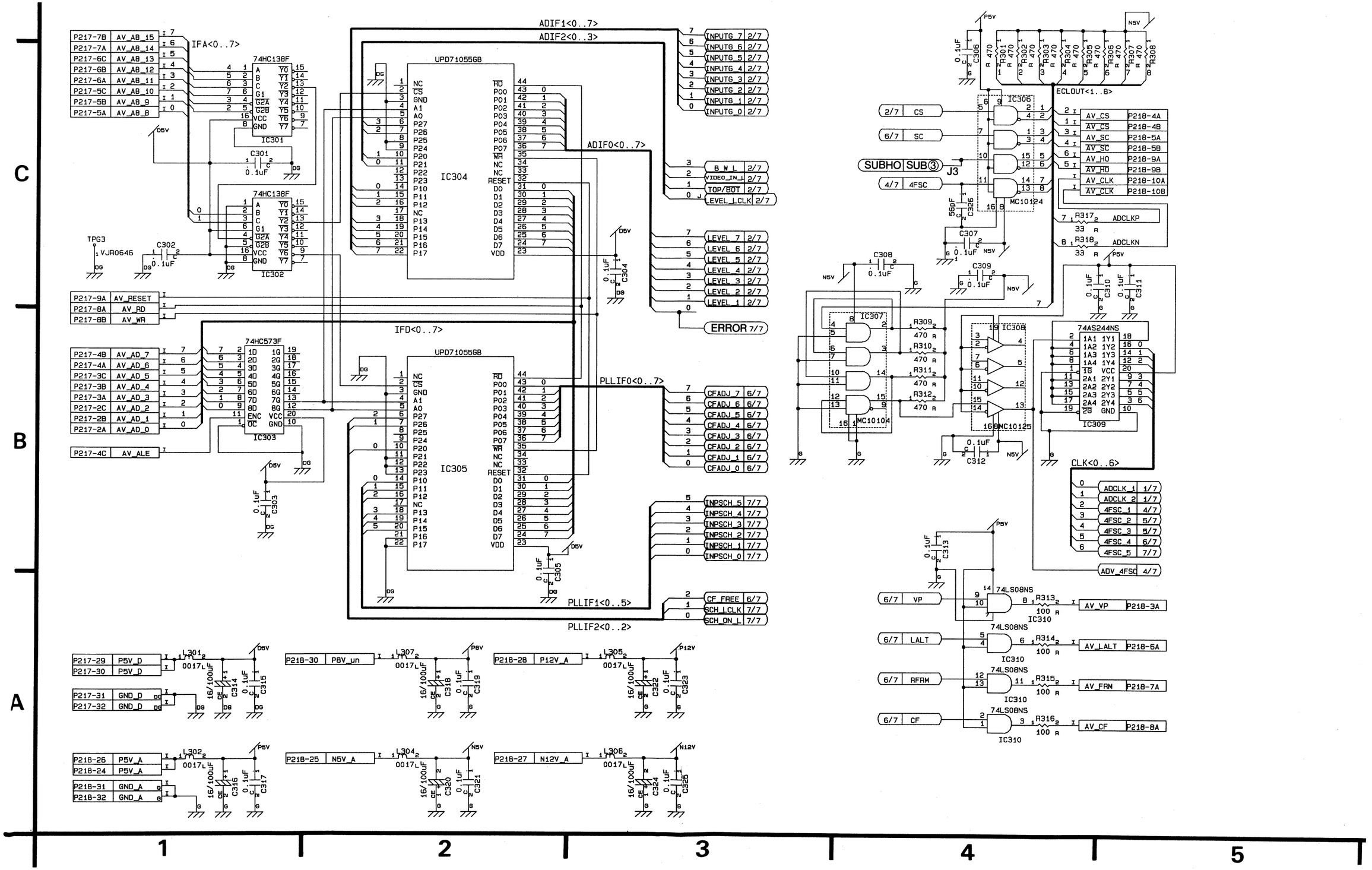
# S9 VIDEO A/D PLL SCHEMATIC DIAGRAM (2/7)






4—2—131

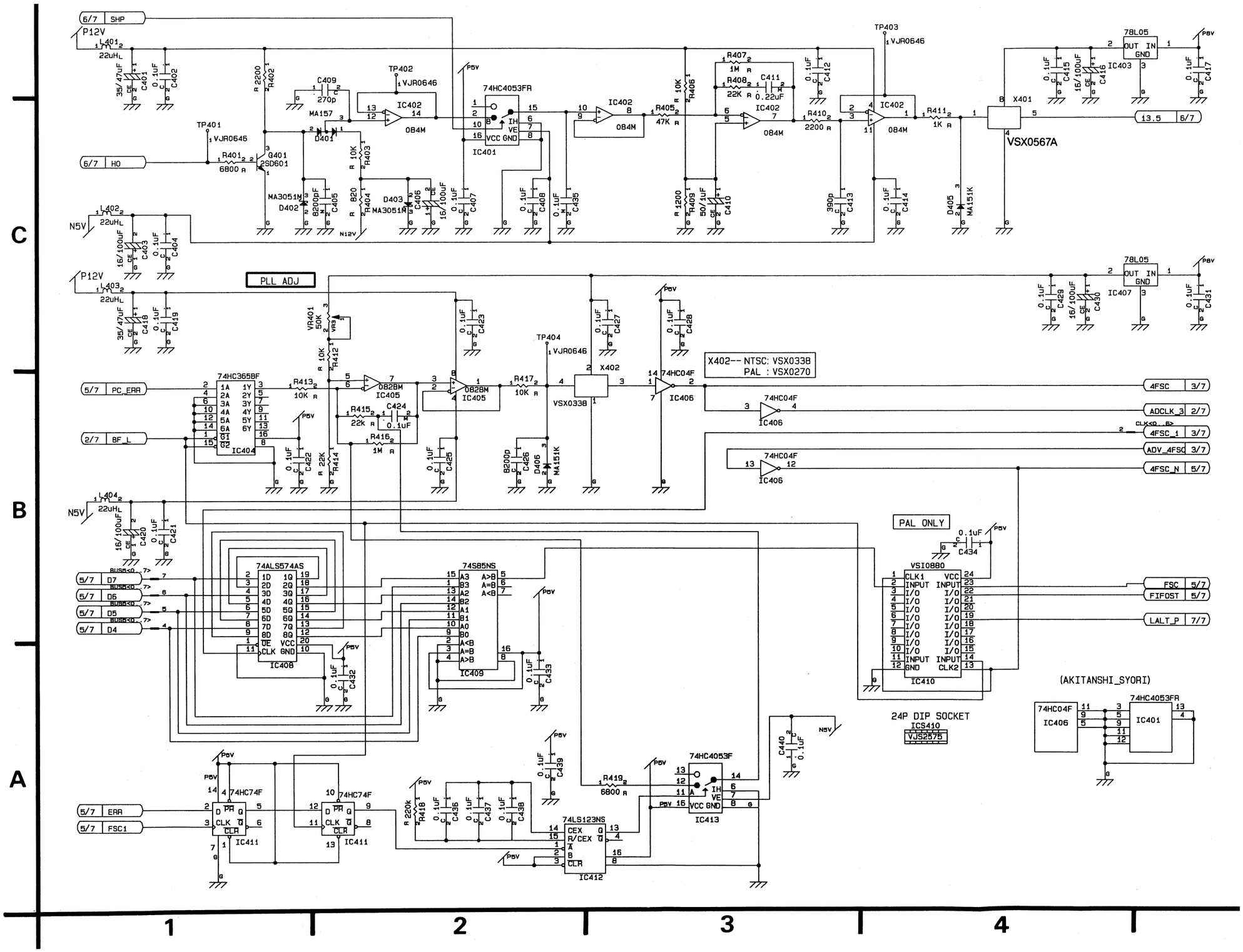
# S9 VIDEO A/D PLL SCHEMATIC DIAGRAM (3/7)






4—2—132

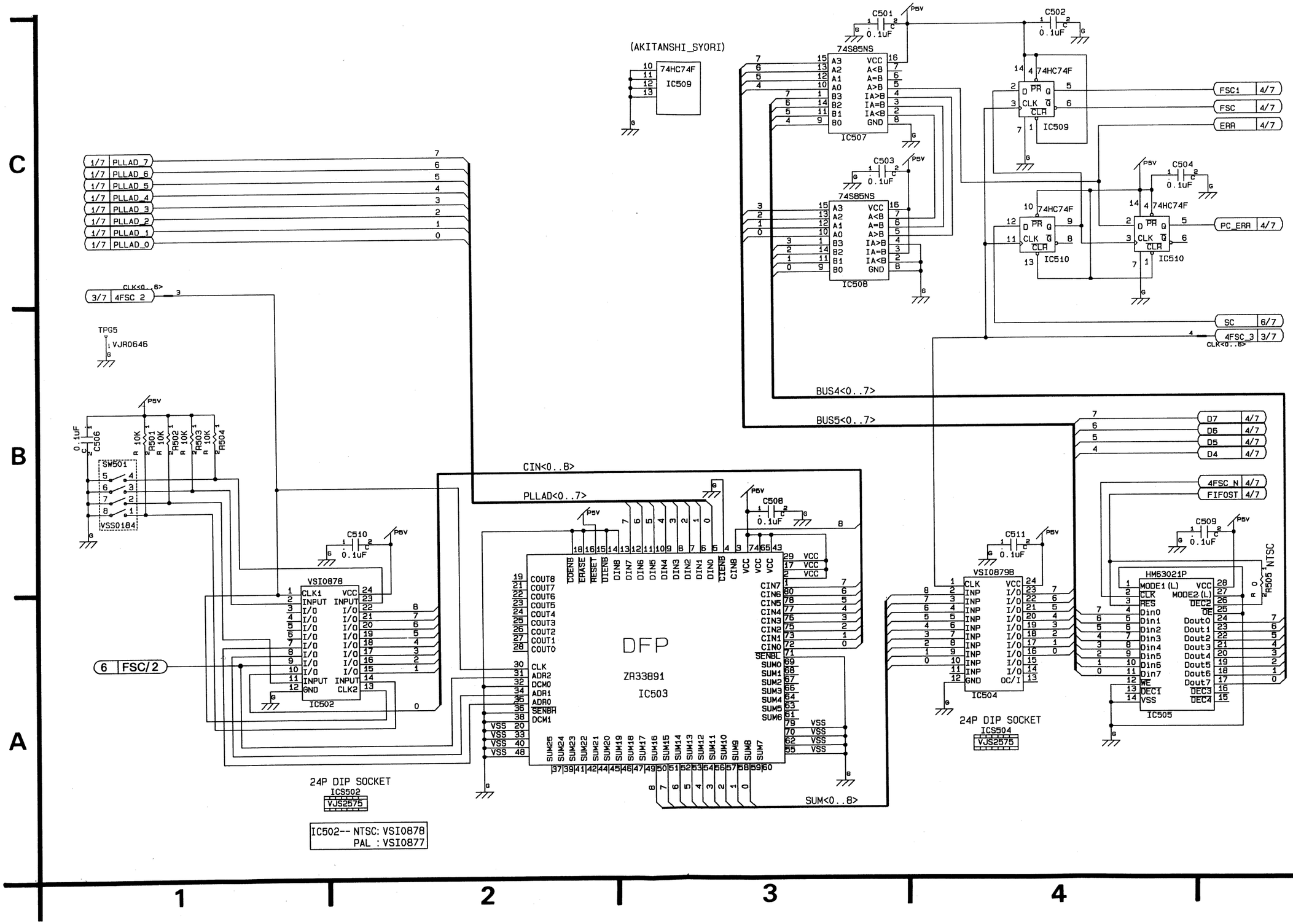
# S9 VIDEO A/D PLL SCHEMATIC DIAGRAM (4/7)






4—2—133

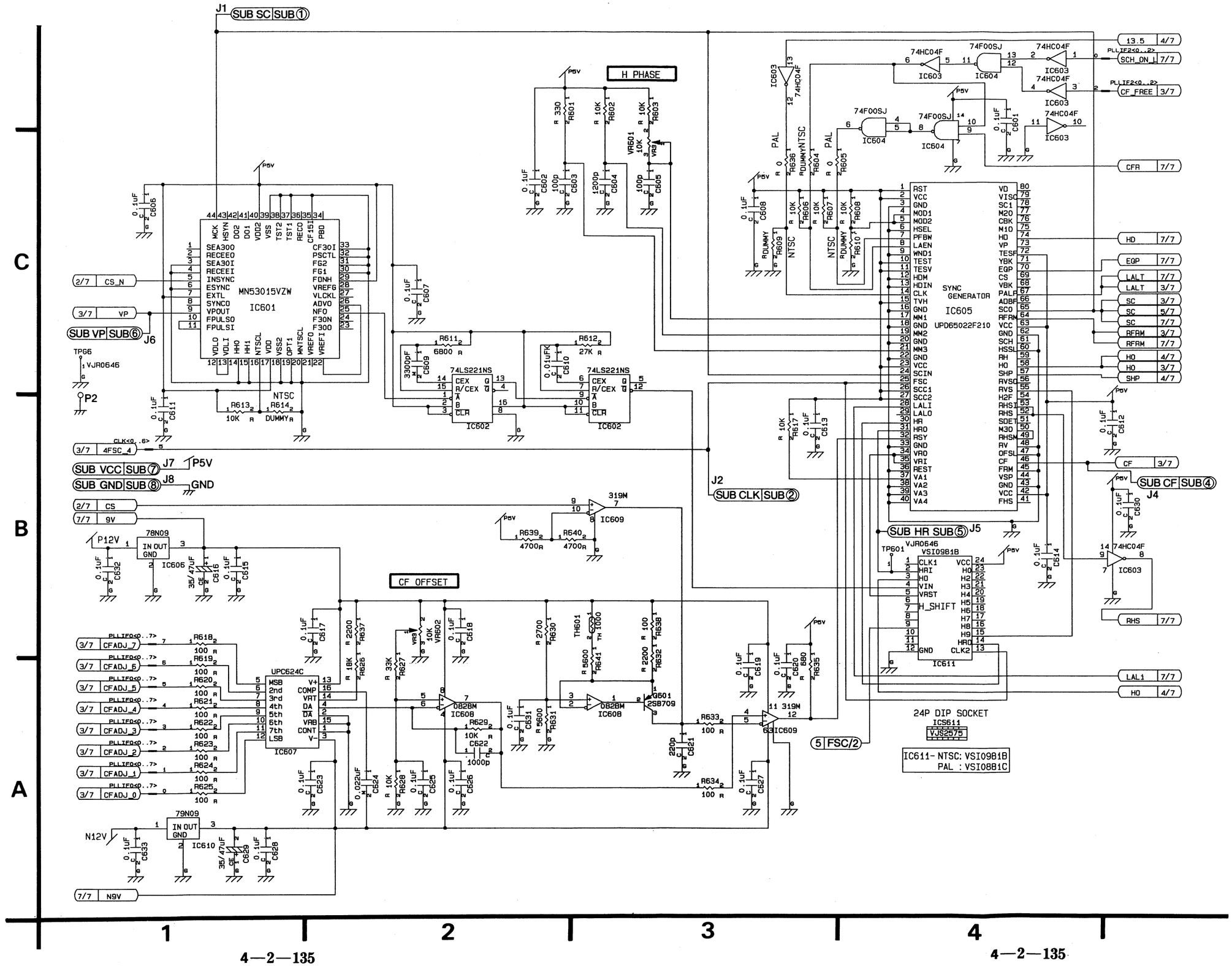
# S9 VIDEO A/D PLL SCHEMATIC DIAGRAM (5/7)






4—2—134

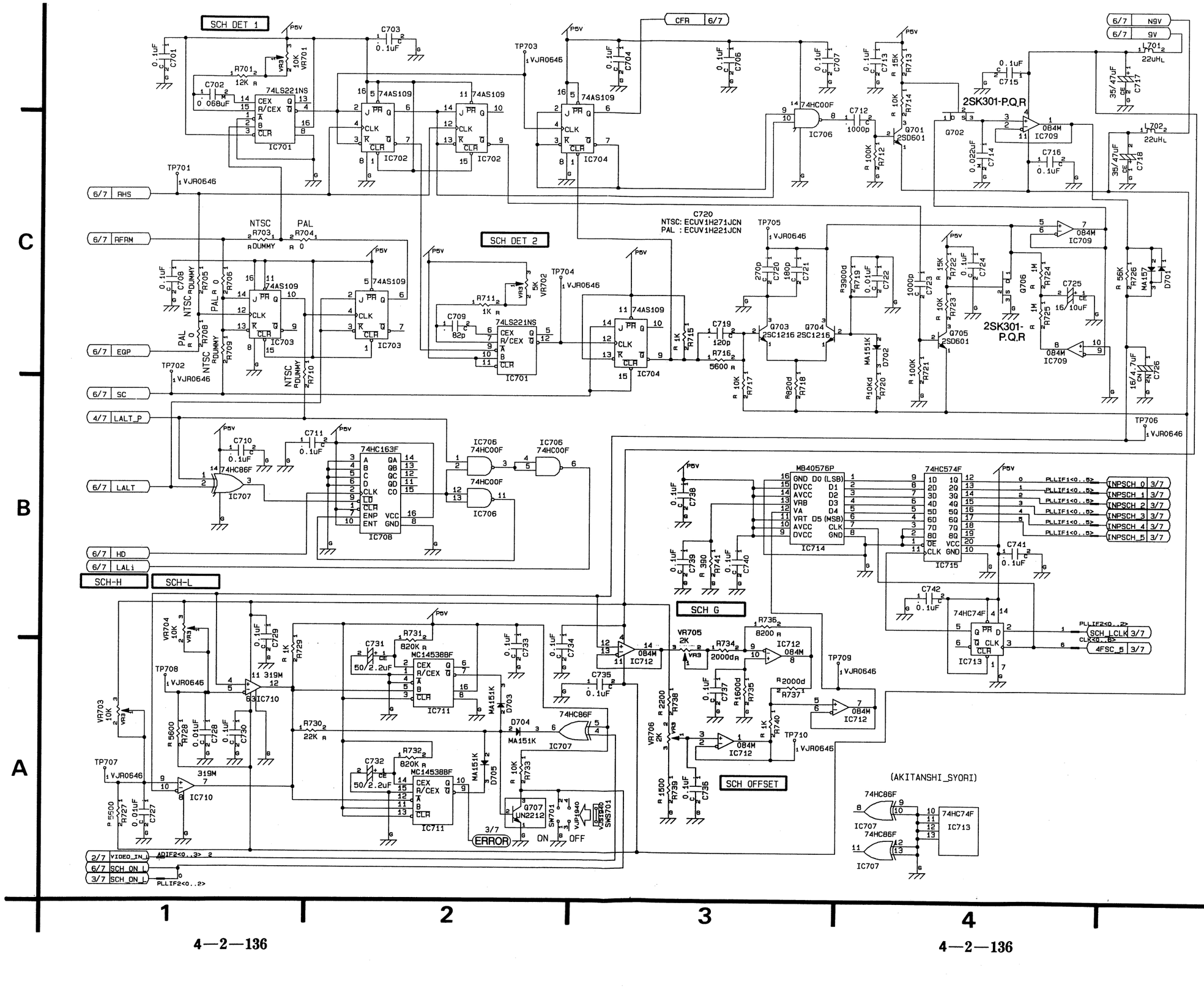
# S9 VIDEO A/D PLL SCHEMATIC DIAGRAM (6/7)






4—2—135

# S9 VIDEO A/D PLL SCHEMATIC DIAGRAM (7/7)

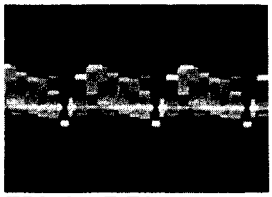




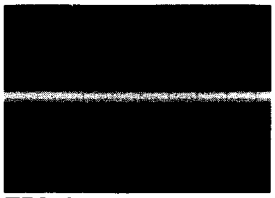

4—2—136

NTSC

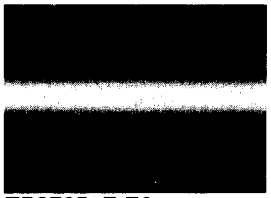
## S9 WAVEFORMS NTSC



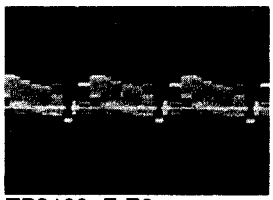
TP8101 E-E2
500mV/20μsec. div.



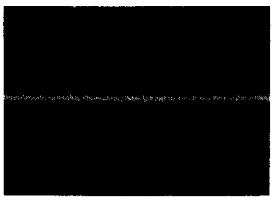
TP8404 E-E2
200mV/20μsec. div.



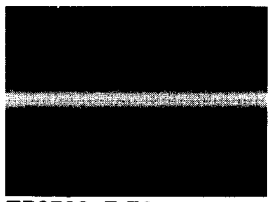
TP8705 E-E2
100mV/2μsec. div.



TP8103 E-E2
1V/20μsec. div.



TP8601 E-E2
200mV/10μsec. div.

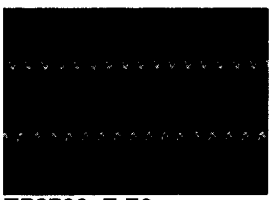


TP8706 E-E2
(TP8707–TP8710)
100mV/2μsec. div.

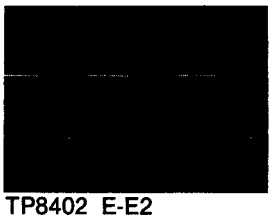
TP8201 E-E2
(TP8202, TP8203)
100mV/20μsec. div.

TP8701 E-E2
5V/20μsec. div.

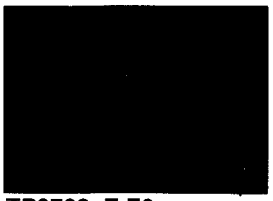
TP8401 E-E2
2V/20μsec. div.



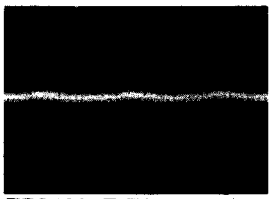
TP8702 E-E2
2V/500nsec. div.



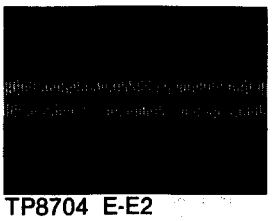
TP8402 E-E2
2V/20μsec. div.



TP8703 E-E2
2V/10msec. div.



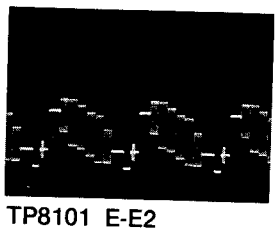
TP8403 E-E2
200mV/20μsec. div.



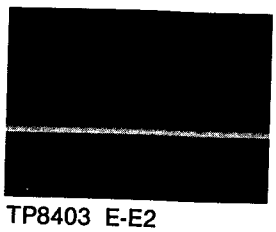
TP8704 E-E2
50mV/2μsec. div.

**PAL**

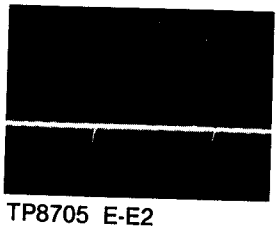
## S9 WAVEFORMS PAL



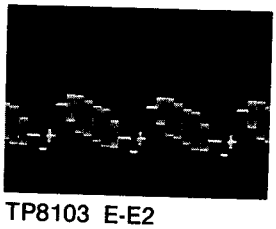
TP8101 E-E2
500mV/20μsec. div.



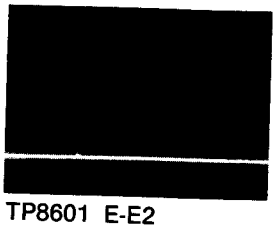
TP8403 E-E2
(TP8404)
200mV/20μsec. div.



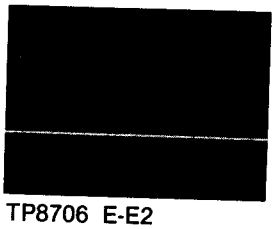
TP8705 E-E2
50mV/10msec. div.



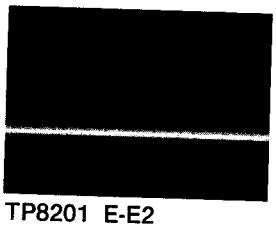
TP8103 E-E2
1V/20μsec. div.



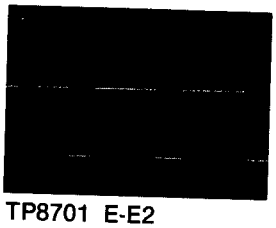
TP8601 E-E2
2V/20μsec. div.



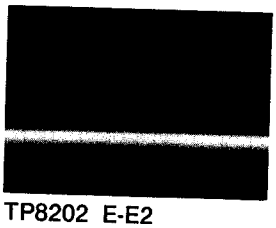
TP8706 E-E2
(TP8707–TP8710)
50mV/20μsec. div.



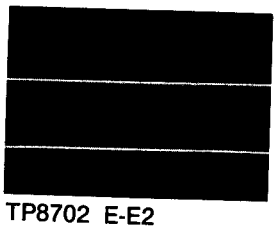
TP8201 E-E2
(TP8203)
20mV/20μsec. div.



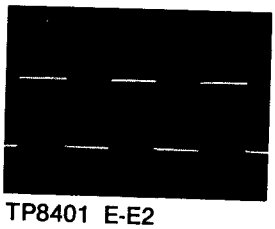
TP8701 E-E2
2V/20μsec. div.



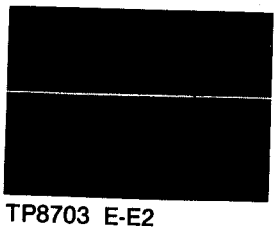
TP8202 E-E2
20mV/20μsec. div.



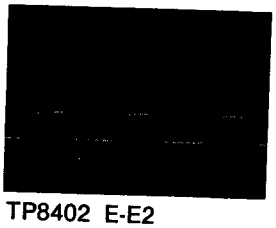
TP8702 E-E2
2V/20μsec. div.



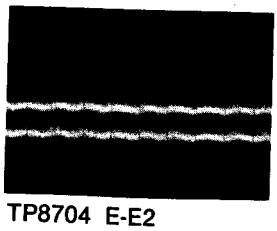
TP8401 E-E2
2V/20μsec. div.



TP8703 E-E2
2V/20msec. div.



TP8402 E-E2
5V/20μsec. div.



TP8704 E-E2
50mV/20μsec. div.

# S9 VIDEO A/D PLL SCHEMATIC DIAGRAM [S MOTHER (P217, P218) SCHEMATIC DIAGRAM (9/14) FOR S9]

| P217 | A | S 9 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | AV AD 0 | P213-2A | P215-2A | P245-30B | P211-2A |
| 3 | AV AD 3 | P213-3A | P215-3A | P245-27B | P211-3A |
| 4 | AV AD 6 | P213-4A | P215-4A | P245-24B | P211-4A |
| 5 | AV AB 8 | P213-5A | P215-5A | P245-21B | P211-5A |
| 6 | AV AB 11 | P213-6A | P215-6A | P245-18B | P211-6A |
| 7 | AV AB 14 | P213-7A | P215-7A | P245-15B | P211-7A |
| 8 | AV RD | P213-8A | P215-8A | P245-12B | P211-8A |
| 9 | AV RESET | P215-9A | P245-11B | P245-9B | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
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| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | | | | | |
| 26 | | | | | |
| 27 | | | | | |
| 28 | -5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | +5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

IFD<0..7>
IFA<0..7>

| P217 | B | S 9 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | GND (D) | | | | |
| 2 | AV AD 1 | P213-2B | P215-2B | P245-29B | P211-2B |
| 3 | AV AD 4 | P213-3B | P215-3B | P245-26B | P211-3B |
| 4 | AV AD 7 | P213-4B | P215-4B | P245-23B | P211-4B |
| 5 | AV AB 9 | P213-5B | P215-5B | P245-20B | P211-5B |
| 6 | AV AB 12 | P213-6B | P215-6B | P245-17B | P211-6B |
| 7 | AV AB 15 | P213-7B | P215-7B | P245-14B | P211-7B |
| 8 | AV WR | P213-8B | P215-8B | P245-11B | P211-8B |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | | | | | |
| 26 | | | | | |
| 27 | | | | | |
| 28 | -5V (D) | | | | |
| 29 | +5V (D) | | | | |
| 30 | +5V (D) | | | | |
| 31 | GND (D) | | | | |
| 32 | GND (D) | | | | |

IFD<0..7>
IFA<0..7>

| P218 | A | S 9 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | | |
| 3 | AV VS | P251-30A | | | |
| 4 | AV CS | P251-29A | | | |
| 5 | AV SC | P251-27A | | | |
| 6 | AV LALT | P251-25A | | | |
| 7 | AV FRM | P251-24A | | | |
| 8 | AV CF | P251-23A | | | |
| 9 | AV HO | P251-22A | | | |
| 10 | AV CLK | P251-20A | | | |
| 11 | | | | | |
| 12 | AV DATA 0 | P251-18A | | | |
| 13 | AV DATA 1 | P251-16A | | | |
| 14 | AV DATA 2 | P251-14A | | | |
| 15 | AV DATA 3 | P251-12A | | | |
| 16 | AV DATA 4 | P251-10A | | | |
| 17 | AV DATA 5 | P251-8A | | | |
| 18 | AV DATA 6 | P251-6A | | | |
| 19 | AV DATA 7 | P251-4A | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | GND (A) | | | | |
| 24 | +5V (A) | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V(un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

ECLOUT<1..8>
ADCLKP
ADECL2<0..7>
ADECL1<0..7>

| P218 | B | S 9 FROM / TO | | | |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | AV CS | P251-28A | | | |
| 5 | AV SC | P251-26A | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | AV HO | P251-21A | | | |
| 10 | AV CLK | P251-19A | | | |
| 11 | | | | | |
| 12 | AV DATA 0 | P251-17A | | | |
| 13 | AV DATA 1 | P251-15A | | | |
| 14 | AV DATA 2 | P251-13A | | | |
| 15 | AV DATA 3 | P251-11A | | | |
| 16 | AV DATA 4 | P251-9A | | | |
| 17 | AV DATA 5 | P251-7A | | | |
| 18 | AV DATA 6 | P251-5A | | | |
| 19 | AV DATA 7 | P251-3A | | | |
| 20 | | | | | |
| 21 | REC INPUT VIDEO GND | P249-2 | | | |
| 22 | | | | | |
| 23 | GND (A) | | | | |
| 24 | +5V (A) | | | | |
| 25 | -5V (A) | | | | |
| 26 | +5V (A) | | | | |
| 27 | -12V (A) | | | | |
| 28 | +12V (A) | | | | |
| 29 | +15V(un) | | | | |
| 30 | +8V (un) | | | | |
| 31 | GND (A) | | | | |
| 32 | GND (A) | | | | |

ECLOUT<1..8>
ADCLKN
ADECL2<0..7>
ADECL1<0..7>

C
B
A
1
2
3
4
5

# MOTHER (P217, P218) SCHEMATIC DIAGRAM (9/14) FOR S9]

| P217 | B | S 9 FROM / TO | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | GND (D) | | | | | 33 | |
| 2 | AV AD 1 | P213-2B | P215-2B | P245-29B | P211-2B | 34 | 1 |
| 3 | AV AD 4 | P213-3B | P215-3B | P245-26B | P211-3B | 35 | 4 |
| 4 | AV AD 7 | P213-4B | P215-4B | P245-23B | P211-4B | 36 | 7 |
| 5 | AV AB 9 | P213-5B | P215-5B | P245-20B | P211-5B | 37 | 1 |
| 6 | AV AB 12 | P213-6B | P215-6B | P245-17B | P211-6B | 38 | 4 |
| 7 | AV AB 15 | P213-7B | P215-7B | P245-14B | P211-7B | 39 | 7 |
| 8 | AV WR | P213-8B | P215-8B | P245-11B | P211-8B | 40 | |
| 9 | | | | | | 41 | |
| 10 | | | | | | 42 | |
| 11 | | | | | | 43 | |
| 12 | | | | | | 44 | |
| 13 | | | | | | 45 | |
| 14 | | | | | | 46 | |
| 15 | | | | | | 47 | |
| 16 | | | | | | 48 | |
| 17 | | | | | | 49 | |
| 18 | | | | | | 50 | |
| 19 | | | | | | 51 | |
| 20 | | | | | | 52 | |
| 21 | | | | | | 53 | |
| 22 | | | | | | 54 | |
| 23 | | | | | | 55 | |
| 24 | | | | | | 56 | |
| 25 | | | | | | 57 | |
| 26 | | | | | | 58 | |
| 27 | | | | | | 59 | |
| 28 | -5V (D) | | | | | 60 | |
| 29 | +5V (D) | | | | | 61 | |
| 30 | +5V (D) | | | | | 62 | |
| 31 | GND (D) | | | | | 63 | |
| 32 | GND (D) | | | | | 64 | |

IFD<0..7>
IFA<0..7>

| P218 | B | S 9 FROM / TO | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | 33 | |
| 2 | | | | | | 34 | |
| 3 | | | | | | 35 | |
| 4 | AV $\overline{CS}$ | P251-28A | | | | 36 | 1 |
| 5 | AV $\overline{SC}$ | P251-26A | | | | 37 | 4 |
| 6 | | | | | | 38 | |
| 7 | | | | | | 39 | |
| 8 | | | | | | 40 | |
| 9 | AV $\overline{HD}$ | P251-21A | | | | 41 | 5 |
| 10 | AV $\overline{CLK}$ | P251-19A | | | | 42 | |
| 11 | | | | | | 43 | |
| 12 | AV DATA $\overline{0}$ | P251-17A | | | | 44 | 7 |
| 13 | AV DATA $\overline{1}$ | P251-15A | | | | 45 | 5 |
| 14 | AV DATA $\overline{2}$ | P251-13A | | | | 46 | 3 |
| 15 | AV DATA $\overline{3}$ | P251-11A | | | | 47 | 1 |
| 16 | AV DATA $\overline{4}$ | P251-9A | | | | 48 | 7 |
| 17 | AV DATA $\overline{5}$ | P251-7A | | | | 49 | 5 |
| 18 | AV DATA $\overline{6}$ | P251-5A | | | | 50 | 3 |
| 19 | AV DATA $\overline{7}$ | P251-3A | | | | 51 | 1 |
| 20 | | | | | | 52 | |
| 21 | REC INPUT VIDEO GND | P249-2 | | | | 53 | |
| 22 | | | | | | 54 | |
| 23 | GND (A) | | | | | 55 | |
| 24 | +5V (A) | | | | | 56 | |
| 25 | -5V (A) | | | | | 57 | |
| 26 | +5V (A) | | | | | 58 | |
| 27 | -12V (A) | | | | | 59 | |
| 28 | +12V (A) | | | | | 60 | |
| 29 | +15V (un) | | | | | 61 | |
| 30 | +8V (un) | | | | | 62 | |
| 31 | GND (A) | | | | | 63 | |
| 32 | GND (A) | | | | | 64 | |

ECLOUT<1..8>
ADCLKN
ADECL2<0..7>
ADECL1<0..7>

| P217 | C | S 9 FROM / TO | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | GND (D) | | | | | 65 | |
| 2 | AV AD 2 | P213-2C | P215-2C | P245-28B | P211-2C | 66 | 2 |
| 3 | AV AD 5 | P213-3C | P215-3C | P245-25B | P211-3C | 67 | 5 |
| 4 | AV ALE | P213-4C | P215-4C | P245-22B | P211-4C | 68 | |
| 5 | AV AB 10 | P213-5C | P215-5C | P245-19B | P211-5C | 69 | 2 |
| 6 | AV AB 13 | P213-6C | P215-6C | P245-16B | P211-6C | 70 | 5 |
| 7 | | | | | | 71 | |
| 8 | | | | | | 72 | |
| 9 | | | | | | 73 | |
| 10 | | | | | | 74 | |
| 11 | | | | | | 75 | |
| 12 | | | | | | 76 | |
| 13 | | | | | | 77 | |
| 14 | | | | | | 78 | |
| 15 | | | | | | 79 | |
| 16 | | | | | | 80 | |
| 17 | | | | | | 81 | |
| 18 | | | | | | 82 | |
| 19 | | | | | | 83 | |
| 20 | | | | | | 84 | |
| 21 | | | | | | 85 | |
| 22 | | | | | | 86 | |
| 23 | | | | | | 87 | |
| 24 | | | | | | 88 | |
| 25 | | | | | | 89 | |
| 26 | | | | | | 90 | |
| 27 | | | | | | 91 | |
| 28 | -5V (D) | | | | | 92 | |
| 29 | +5V (D) | | | | | 93 | |
| 30 | +5V (D) | | | | | 94 | |
| 31 | GND (D) | | | | | 95 | |
| 32 | GND (D) | | | | | 96 | |

IFD<0..7>
IFA<0..7>

| P218 | C | S 9 FROM / TO | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | 65 | |
| 2 | | | | | | 66 | |
| 3 | | | | | | 67 | |
| 4 | | | | | | 68 | |
| 5 | | | | | | 69 | |
| 6 | | | | | | 70 | |
| 7 | | | | | | 71 | |
| 8 | | | | | | 72 | |
| 9 | | | | | | 73 | |
| 10 | | | | | | 74 | |
| 11 | | | | | | 75 | |
| 12 | | | | | | 76 | |
| 13 | | | | | | 77 | |
| 14 | | | | | | 78 | |
| 15 | | | | | | 79 | |
| 16 | | | | | | 80 | |
| 17 | | | | | | 81 | |
| 18 | | | | | | 82 | |
| 19 | | | | | | 83 | |
| 20 | | | | | | 84 | |
| 21 | REC INPUT VIDEO | P249-1 | | | | 85 | |
| 22 | | | | | | 86 | |
| 23 | GND (A) | | | | | 87 | |
| 24 | +5V (A) | | | | | 88 | |
| 25 | -5V (A) | | | | | 89 | |
| 26 | +5V (A) | | | | | 90 | |
| 27 | -12V (A) | | | | | 91 | |
| 28 | +12V (A) | | | | | 92 | |
| 29 | +15V (un) | | | | | 93 | |
| 30 | +8V (un) | | | | | 94 | |
| 31 | GND (A) | | | | | 95 | |
| 32 | GND (A) | | | | | 96 | |

3 4 5 6

## P233
HIROSE PCN13-96S-2.54DSA

| FROM / TO | | | | | A | | B | FROM / TO | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GND | | | | | AG | 1 | AG | | | | | GND |
| STOP_L | | | | P209-10A | DRUM STOP L | 2 | DRUM BRK L | P209-9C | | | | BRAKE_L |
| D_SW_L | | | | P209-11C | DRUM SW L | 3 | D ERR | P209-10B | | | | D_ERR |
| DRVAG | | | P209-13B | P209-12C | AG (D&C) | 4 | AG (D&C) | P209-10C | P209-11B | | | DRVAG |
| CAP_ERR | | | | P209-12B | CAP ERR | 5 | CAP EDS | P209-12A | | | | CAP_EDS |
| * | | | | | | 6 | CAP RCC | P209-13C | | | | CAP_RCC |
| S_R_ERR | | | | P209-14B | S R ERR | 7 | T R ERR | P209-14A | | | | T_R_ERR |
| * | | | | | | 8 | 2.5V | P209-14C | | | | 2.5V |
| MCONT6 | | | | P213-22B | MCONT 6 | 9 | MCONT 5 | P213-22A | | | | MCONT5 |
| SYS_RST | P211-9C | P241-12B | P260-9 | P213-9C | SYS RESET | 10 | PINCH ON | P213-23A | P209-8C | | | PINCH_ON |
| T_BRK_ON | | | | P213-23C | T BRK ON | 11 | S BRK ON | P213-23B | | | | S_BRK_ON |
| CLEAN_ON | | | | P213-24C | CLEN ON | 12 | STOP ON | P213-24B | | | | STOP_ON |
| MCONT_2 | | | | P213-25A | MCONT 2 | 13 | MCONT 1 | P213-24A | | | | MCONT_1 |
| MCONT_4 | | | | P213-25C | MCONT 4 | 14 | MCONT 3 | P213-25B | | | | MCONT_3 |
| S_R_D_ON | | | | P213-26B | S REEL DRV ON | 15 | T REEL DRV ON | P213-26A | | | | T_R_D_ON |
| MCONT8 | | | | P213-26C | MCONT 8 | 16 | MCONT 7 | P213-22C | | | | MCONT7 |

## P241
HIROSE PCN13-96S-2.54DSA

S

| FROM / TO | | | | | A | | B | FROM / TO | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +12V (A) | | | | | +12V (A) | 1 | +12V (A) | | | | | +12V (A) |
| +5V (D) | | | | | +5V (D) | 2 | +5V (D) | | | | | +5V (D) |
| GND | | | | | GND (D) | 3 | GND (D) | | | | | GND |
| SYS_AB_0 | | P260-1 | P211-9B | P213-9B | SYS AB 0 | 4 | SYS DB 0 | P261-1 | P211-9A | P213-9A | | SYS_DB_0 |
| SYS_AB_1 | | P260-2 | P211-10B | P213-10B | SYS AB 1 | 5 | SYS DB 1 | P261-2 | P211-10A | P213-10A | | SYS_DB_1 |
| SYS_AB_2 | | P260-3 | P211-11B | P213-11B | SYS AB 2 | 6 | SYS DB 2 | P261-3 | P211-11A | P213-11A | | SYS_DB_2 |
| SYS_AB_3 | | P260-4 | P211-12B | P213-12B | SYS AB 3 | 7 | SYS DB 3 | P261-4 | P211-12A | P213-12A | | SYS_DB_3 |
| SYS_AB_4 | | P260-5 | P211-13B | P213-13B | SYS AB 4 | 8 | SYS DB 4 | P261-5 | P211-13A | P213-13A | | SYS_DB_4 |
| SYS_AB_5 | | P260-6 | P211-14B | P213-14B | SYS AB 5 | 9 | SYS DB 5 | P261-6 | P211-14A | P213-14A | | SYS_DB_5 |
| SYS_AB_6 | | P260-7 | P211-15B | P213-15B | SYS AB 6 | 10 | SYS DB 6 | P261-7 | P211-15A | P213-15A | | SYS_DB_6 |
| SYS_AB_7 | | P260-8 | P211-16B | P213-16B | SYS AB 7 | 11 | SYS DB 7 | P261-8 | P211-16A | P213-16A | | SYS_DB_7 |
| SYS_IORD | | P260-10 | P211-10C | P213-10C | SYS IORD | 12 | SYS RESET | P260-9 | P211-9C | P213-9C | P233-10A | P205-9C * |
| SYS_IOWR | | P260-11 | P211-11C | P213-11C | SYS IOWR | 13 | | | | | | |

| FROM / TO | |
|---|---|
| CS_UP_SW | |
| CS_DO_SW | |
| L_CS_IN | |
| M_CS_IN | |
| RP_FRONT | |
| RP_CNTER | |
| RP_BACK | |
| ML_START | |
| ML_END | |
| ML_CNTER | |
| DEW_SENS | |
| SEN_LEDA | |
| SEN_LEDK | |
| * | |
| * | |
| * | |

| FROM / TO | | |
|---|---|---|
| GND | | |
| BLK_SYNC | | |
| PB_H_SW | | |
| P_TP_FRM | | |
| FV/8 | | |
| FV/4 | | |
| FV/2 | | P207-16B |
| 90/100HZ | | |
| AU_D_IN7 | | |
| AU_D_IN6 | | |
| AU_D_IN5 | | |
| AU_D_IN4 | | |
| AU_D_IN3 | | |
| AU_D_IN2 | | |
| AU_D_IN1 | | |
| AU_D_IN0 | | |
| FILD | | |
| PB5F | | |
| VALIDF | | |
| MUTE_34 | | |
| MUTE_12 | | |
| STFLG | | |
| STO | | |
| PBD_34 | | |
| PBD_12 | | |
| DSD_L | | |
| DSD_3 | | |
| DSD_1 | | |
| ASD_3 | | |
| ASD_1 | | |

# S MOTHER (P242, P245) SCHEMATIC DIAGRAM (11/14)

233

-96S-2.54DSA

| | B | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| | AG | | | | | GND |
| 2 | DRUM BRK L | P209-9C | | | | BRAKE_L |
| 3 | D ERR | P209-10B | | | | D_ERR |
| | AG (D&C) | P209-10C | P209-11B | | | DRVAG |
| | CAP EDS | P209-12A | | | | CAP_EDS |
| 6 | CAP RCC | P209-13C | | | | CAP_RCC |
| | T R ERR | P209-14A | | | | T_R_ERR |
| | 2.5V | P209-14C | | | | 2.5V |
| 9 | MCONT 5 | P213-22A | | | | MCONT5 |
| 10 | PINCH ON | P213-23A | P209-8C | | | PINCH_ON |
| 1 | S BRK ON | P213-23B | | | | S_BRK_ON |
| 12 | STOP ON | P213-24B | | | | STOP_ON |
| 13 | MCONT 1 | P213-24A | | | | MCONT_1 |
| 1 | MCONT 3 | P213-25B | | | | MCONT_3 |
| 1 | T REEL DRV ON | P213-26A | | | | T_R_D_ON |
| 16 | MCONT 7 | P213-22C | | | | MCONT7 |

1

13-96S-2.54DSA

| | B | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| | +12V (A) | | | | | +12V (A) |
| | +5V (D) | | | | | +5V (D) |
| 3 | GND (D) | | | | | GND |
| 4 | SYS DB 0 | P261-1 | P211-9A | P213-9A | | SYS_DB_0 |
| | SYS DB 1 | P261-2 | P211-10A | P213-10A | | SYS_DB_1 |
| | SYS DB 2 | P261-3 | P211-11A | P213-11A | | SYS_DB_2 |
| 7 | SYS DB 3 | P261-4 | P211-12A | P213-12A | | SYS_DB_3 |
| | SYS DB 4 | P261-5 | P211-13A | P213-13A | | SYS_DB_4 |
| | SYS DB 5 | P261-6 | P211-14A | P213-14A | | SYS_DB_5 |
| 10 | SYS DB 6 | P261-7 | P211-15A | P213-15A | | SYS_DB_6 |
| 11 | SYS DB 7 | P261-8 | P211-16A | P213-16A | | SYS_DB_7 |
| 1 | SYS RESET | P260-9 | P211-9C | P213-9C | P233-10A | P205-9C SYS_RST |
| 1 | | | | | | * |

3 4

C

B

A

P242

HIROSE PCN13-96S-2.54DA/FITS

| FROM / TO | | | | A | | B | FROM / TO | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CS_UP_SW | | | P214-12B | CASS UP SW | 1 | SUB LOAD CEN | P214-20B | | | | SL_CNTER |
| CS_DO_SW | | | P214-12C | CASS DOWN SW | 2 | CASS DET A | P214-10A | | | | CS_DET_A |
| L_CS_IN | | | P214-13B | L CASS IN | 3 | CASS DET B | P214-10B | | | | CS_DET_B |
| M_CS_IN | | | P214-13C | M CASS IN | 4 | CASS DET C | P214-10C | | | | CS_DET_C |
| RP_FRONT | | | P214-14C | REEL POS FRONT | 5 | CASS IN SW L | P214-11B | | | | CS_I_S_L |
| RP_CNTER | | | P214-15C | REEL POS CENTER | 6 | CASS IN SW R | P214-11C | | | | CS_I_S_R |
| RP_BACK | | | P214-16C | REEL POS BACK | 7 | S PHOTO | P214-11A | | | | S_PHOTO |
| ML_START | | | P214-14B | MAIN LOAD START | 8 | T PHOTO | P214-12A | | | | T_PHOTO |
| ML_END | | | P214-15B | MAIN LOAD END | 9 | SUB LOAD START | P214-13A | | | | SL_START |
| ML_CNTER | | | P214-16B | MAIN LOAD CENTER | 10 | SUB LOAD END | P214-14A | | | | SL_END |
| DEW_SENS | | | P214-17C | DEW SENS | 11 | CASS DET F | P214-15A | | | | CS_DET_F |
| SEN_LEDA | | | P214-17B | SENS LED A | 12 | CASS DET R | P214-16A | | | | CS_DET_R |
| SEN_LEDK | | | P214-18B | SENS LED K | 13 | CASS DET S | P214-17A | | | | CS_DET_S |
| | | | | | 14 | CASS DET T | P214-18A | | | | CS_DET_T |
| | | | | | 15 | | | | | | * |
| | | | | | 16 | | | | | | * |

P245

HIROSE PCN13-96S-2.54DSA

S

| FROM / TO | | | | A | | B | FROM / TO | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GND | | | | GND (D) | 1 | GND (D) | | | | | GND |
| BLK_SYNC | | | P215-17C | BLK_SYNC | 2 | TEST EE2 | P203-20A | P201-20A | P502-11 | | TEST_EE2 |
| PB_H_SW | | | P209-17C | PB HSW | 3 | ENV DET CH1 | P204-14A | | | | ENV_DET1 |
| P_TP_FRM | | | P209-17B | PB TP FRAME | 4 | ENV DET CH0 | P202-14A | P204-9A | | | ENV_DET0 |
| FV/8 | | | P209-17A | FV/8 | 5 | SEG_VAG | P207-10B | | | | SEG_VAG |
| FV/4 | | | P209-16C | FV/4 | 6 | PB_FN0 | P207-10A | | | | PB_FN0 |
| FV/2 | | P207-16B | P209-16B | FV/2 | 7 | SEG 1 | P207-9B | | | | SEG_1 |
| 90/100HZ | | | P209-16A | 90/100 HZ | 8 | SEG 0 | P207-9A | | | | SEG_0 |
| AU_D_IN7 | | | P215-26B | AU DATA IN 7 | 9 | AV RESET | P215-9A | P217-9A | | | AV_RESET |
| AU_D_IN6 | | | P215-26A | AU DATA IN 6 | 10 | AV BUSY | P213-8C | P211-8C | | | AV_BUSY |
| AU_D_IN5 | | | P215-25C | AU DATA IN 5 | 11 | AV WR | P217-8B | P215-8B | P213-8B | P211-8B | AV_WR |
| AU_D_IN4 | | | P215-25B | AU DATA IN 4 | 12 | AV RD | P217-8A | P215-8A | P213-8A | P211-8A | AV_RD |
| AU_D_IN3 | | | P215-25A | AU DATA IN 3 | 13 | AV SYS INT | P213-7C | | | P211-7C | AV_S_INT |
| AU_D_IN2 | | | P215-24C | AU DATA IN 2 | 14 | AV AB 15 | P217-7B | P215-7B | P213-7B | P211-7B | AV_AB_15 |
| AU_D_IN1 | | | P215-24B | AU DATA IN 1 | 15 | AV AB 14 | P217-7A | P215-7A | P213-7A | P211-7A | AV_AB_14 |
| AU_D_IN0 | | | P215-24A | AU DATA IN 0 | 16 | AV AB 13 | P217-6C | P215-6C | P213-6C | P211-6C | AV_AB_13 |
| FILD | | | P215-22C | FILD | 17 | AV AB 12 | P217-6B | P215-6B | P213-6B | P211-6B | AV_AB_12 |
| PB5F | | | P215-22B | PB5F | 18 | AV AB 11 | P217-6A | P215-6A | P213-6A | P211-6A | AV_AB_11 |
| VALIDF | | | P215-22A | VALIDF | 19 | AV AB 10 | P217-5C | P215-5C | P213-5C | P211-5C | AV_AB_10 |
| MUTE_34 | | | P215-20B | MUTE 34 | 20 | AV AB 9 | P217-5B | P215-5B | P213-5B | P211-5B | AV_AB_9 |
| MUTE_12 | | | P215-20A | MUTE 12 | 21 | AV AB 8 | P217-5A | P215-5A | P213-5A | P211-5A | AV_AB_8 |
| STFLG | | | P215-17B | STFLG | 22 | AV ALE | P217-4C | P215-4C | P213-4C | P211-4C | AV_ALE |
| STO | | | P215-17A | STO | 23 | AV AD 7 | P217-4B | P215-4B | P213-4B | P211-4B | AV_AD_7 |
| PBD_34 | | | P215-16B | PBD 34 | 24 | AV AD 6 | P217-4A | P215-4A | P213-4A | P211-4A | AV_AD_6 |
| PBD_12 | | | P215-16A | PBD 12 | 25 | AV AD 5 | P217-3C | P215-3C | P213-3C | P211-3C | AV_AD_5 |
| DSD_L | | | P215-15B | DSD L | 26 | AV AD 4 | P217-3B | P215-3B | P213-3B | P211-3B | AV_AD_4 |
| DSD_3 | | | P215-14C | DSD 3 | 27 | AV AD 3 | P217-3A | P215-3A | P213-3A | P211-3A | AV_AD_3 |
| DSD_1 | | | P215-14A | DSD1 | 28 | AV AD 2 | P217-2C | P215-2C | P213-2C | P211-2C | AV_AD_2 |
| ASD_3 | | | P215-12C | ASD 3 | 29 | AV AD 1 | P217-2B | P215-2B | P213-2B | P211-2B | AV_AD_1 |
| ASD_1 | | | P215-12A | ASD 1 | 30 | AV AD 0 | P217-2A | P215-2A | P213-2A | P211-2A | AV_AD_0 |

1 2 3

# S MOTHER (P251, P263) SCHEMATIC DIAGRAM (12/14)

C

B

A

P251
HIROSE PCN13-96S-2.54DSA
S

| FROM / TO | | | | | A | | B | FROM / TO | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GND | | | | | GND (D) | 1 | GND (D) | | | | | GND |
| | | | | | | 2 | | | | | | |
| -AVDATA7 | | | | P218-19B | AV DATA 7 | 3 | | | | | | |
| +AVDATA7 | | | | P218-19A | AV DATA 7 | 4 | | | | | | |
| -AVDATA6 | | | | P218-18B | AV DATA 6 | 5 | VCP RESET | P213-20B | | | | VCPRESET |
| +AVDATA6 | | | | P218-18A | AV DATA 6 | 6 | REC V SYNC | P213-18A | P212-16C | | | R_V_SYNC |
| -AVDATA5 | | | | P218-17B | AV DATA 5 | 7 | REC COMP SYNC | P212-16B | | | | R_C_SYNC |
| +AVDATA5 | | | | P218-17A | AV DATA 5 | 8 | VITC GATE | P212-15C | | | | VITCGATE |
| -AVDATA4 | | | | P218-16B | AV DATA 4 | 9 | REC VITC | P212-15B | | | | REC_VITC |
| +AVDATA4 | | | | P218-16A | AV DATA 4 | 10 | REC CF | P213-19A | P212-15A | | | REC_CF |
| -AVDATA3 | | | | P218-15B | AV DATA 3 | 11 | CHAR GATE | P212-12B | | | | CHARGATE |
| +AVDATA3 | | | | P218-15A | AV DATA 3 | 12 | CHAR SIG | P212-12A | | | | CHAR_SIG |
| -AVDATA2 | | | | P218-14B | AV DATA 2 | 13 | REC_H_SW | P210-11B | P208-11B | | | REC_H_SW |
| +AVDATA2 | | | | P218-14A | AV DATA 2 | 14 | PB V SYNC | P212-14C | | | | P_V_SYNC |
| -AVDATA1 | | | | P218-13B | AV DATA 1 | 15 | PB COMP SYNC | P212-14B | | | | P_C_SYNC |
| +AVDATA1 | | | | P218-13A | AV DATA 1 | 16 | PB VITC | P212-14A | | | | PB_VITC |
| -AVDATA0 | | | | P218-12B | AV DATA 0 | 17 | SPI VD | P212-13B | | | | SPI_VD |
| +AVDATA0 | | | | P218-12A | AV DATA 0 | 18 | SPI HD | P212-13A | | | | SPI_HD |
| -AV_CLK | | | | P218-10B | AV CLK | 19 | CAP FGP | P216-9C | P214-9C | P210-9C | | CAP_FGP |
| AV_CLK | | | | P218-10A | AV CLK | 20 | CAP DIR | P216-8C | P214-8C | P210-8C | | CAP_DIR |
| -AV_HO | | | | P218-9B | AV HO | 21 | FSA | P216-8A | | | | FSA |
| AV_HO | | | | P218-9A | AV HO | 22 | FSD | P216-7B | | | | FSD |
| AV_CF | | | | P218-8A | AV CF | 23 | ST 3 | P216-7A | | | | ST_3 |
| AV_FRM | | | | P218-7A | AV FRM | 24 | ST 2 | P216-6C | | | | ST_2 |
| AV_LALT | | | | P218-6A | AV LALT | 25 | ST 1 | P216-6B | | | | ST_1 |
| -AV_SC | | | | P218-5B | AV SC | 26 | ST 0 | P216-6A | | | | ST_0 |
| AV_SC | | | | P218-5A | AV SC | 27 | WCK | P216-5B | | | | WCK |
| -AV_CS | | | | P218-4B | AV CS | 28 | BCK | P216-5A | | | | BCK |
| AV_CS | | | | P218-4A | AV CS | 29 | FS 128 | P216-2B | | | | FS_128 |
| AV_VS | | | | P218-3A | AV VS | 30 | PB RST (INIT) | P216-2A | | | | PB_RST |

P263
HIROSE PCN13-96S-2.54DSA
S

| FROM / TO | | | | | A | | B | FROM / TO | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TRANS_B1 | | | | P212-7A | TRANSMIT B1 | 1 | TRANSMIT A1 | P212-6A | | | | TRANS_A1 |
| RECIV_B1 | | | | P212-9A | RECEIVE B1 | 2 | RECEIVE A1 | P212-8A | | | | RECIV_A1 |
| GND | | | | | GND (D) | 3 | GND (D) | | | | | GND |
| RXD | | | | P212-10B | RXD | 4 | TXD | P212-10A | | | | TXD |
| CTS | | | | P212-11A | CTS | 5 | RTS | P212-10C | | | | RTS |
| DSR | | | | P212-11B | DSR | 6 | DCD | P212-12C | | | | DCD |
| | | | | | | 7 | DTR | P212-11C | | | | DTR |
| GND | | | | | GND (D) | 8 | GND (D) | | | | | GND |
| DAV | | | | P212-20A | DAV | 9 | DIO 1 | P212-17A | | | | DIO_1 |
| NRFD | | | | P212-20B | NRFD | 10 | DIO 2 | P212-17B | | | | DIO_2 |
| NDAC | | | | P212-20C | NDAC | 11 | DIO 3 | P212-17C | | | | DIO_3 |
| ATN | | | | P212-21A | ATN | 12 | DIO 4 | P212-18A | | | | DIO_4 |
| IFC | | | | P212-21B | IFC | 13 | DIO 5 | P212-18B | | | | DIO_5 |
| SRQ | | | | P212-21C | SRQ | 14 | DIO 6 | P212-18C | | | | DIO_6 |
| REN | | | | P212-22A | REN | 15 | DIO 7 | P212-19A | | | | DIO_7 |
| EOI | | | | P212-22B | EOI | 16 | DIO 8 | P212-19B | | | | DIO_8 |
| TRANS_B2 | | | | P212-7B | TRANSMIT B2 | 17 | TRANSMIT A2 | P212-6B | | | | TRANS_A2 |
| RECIV_B2 | | | | P212-9B | RECEIVE B2 | 18 | RECEIVE A2 | P212-8B | | | | RECIV_A2 |
| TRANS_B3 | | | | P212-7C | TRANSMIT B3 | 19 | TRANSMIT A3 | P212-6C | | | | TRANS_A3 |
| RECIV_B3 | | | | P212-9C | RECEIVE B3 | 20 | RECEIVE A3 | P212-8C | | | | RECIV_A3 |

1 2 3



4—2—139

# S MOTHER SCHEMATIC DIAGRAM (14/14)

C

B

A

| P247 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | EJECT KEY | P214-18C | | | | EJE_KEY |
| 2 | EJECT LAMP | P214-19C | | | | EJE_LAMP |
| 3 | GND (D) | | | | | GND |
| 4 | AUTO OFF LAMP | P214-19B | | | | A_O_LAMP |
| 5 | +5V (D) | | | | | +5V (D) |

| P248 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | -5V (D) | P035-1 | | | | -5V (D) |
| 2 | +5V (D) | P035-2 | | | | +5V (D) |
| 3 | GND (D) | P235-3 | | | | GND |

| P249 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | REC INPUT VIDEO | P218-21C | | | | R_IN_V |
| 2 | REC INPUT VIDEO GND | P218-21B | | | | R_IN_V_G |
| 3 | RF WFM | P204-1C | P202-1C | | | RF_WFM |
| 4 | RF WFM GND | P204-1A | P204-1B | P202-1A | P202-1B | RF_WFM_G |
| 5 | WF CTL | P210-14B | | | | WF_CTL |
| 6 | WF CTL GND | P210-15B | | | | WF_CTL_G |
| 7 | 4FSC CLK | P212-16A | | | | 4FSC_CLK |
| 8 | 4FSC CLK GND | | | | | GND |

| P253 | | FROM/TO | | | | |
|---|---|---|---|---|---|---|
| 1 | -15V (un) | | | | | -15V (UN) |
| 2 | -8V (un) | | | | | -8V (UN) |
| 3 | GND (A) | | | | | GND |
| 4 | GND (A) | | | | | GND |
| 5 | +8V (un) | | | | | +8V (UN) |
| 6 | +15V (un) | | | | | +15V (UN) |
| 7 | +12V (A) | | | | | +12V (A) |
| 8 | -12V (A) | | | | | -12V (A) |
| 9 | +5V (A) | | | | | +5V (A) |
| 10 | -5V (A) | | | | | -5V (A) |

| P255 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | +12V (A) | | | | | +12V (A) |
| 2 | -12V (A) | | | | | -12V (A) |
| 3 | +5V (A) | | | | | +5V (A) |
| 4 | GND (A) | | | | | GND |

| P290 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | STRN_A | P207-19C | | | | STRN_A |
| 2 | STRN_G | P207-19B | | | | STRN_G |
| 3 | STRN_B | P207-19A | | | | STRN_B |
| 4 | HV_MONI | P207-20C | | | | HV_MONI |
| 5 | HV_ON | P207-21C | | | | HV_ON |
| 6 | PAT_A | P207-20B | | | | PAT_A |
| 7 | PAT_A_G | P207-20A | | | | PAT_A_G |
| 8 | PAT_B | P207-21B | | | | PAT_B |
| 9 | PAT_B_G | P207-21A | | | | PAT_B_G |

| P256 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | SER H SW | P210-18A | P214-19A | P201-23B | | SER_H_SW |
| 2 | SER H SW GND | P201-24B | P210-18B | | | SERHSW_G |
| 3 | TEST MODE | P214-21B | P202-24A | | | TESTMODE |
| 4 | REC MODE | P214-20A | P202-22A | | | REC_MODE |

| P257 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | +24V (un) | | | | | +24V (UN) |
| 2 | | | | | | |
| 3 | GND (un) | | | | | GND (UN) |

| P258 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | +12V (A) | | | | | +12V (A) |
| 2 | -12V (A) | | | | | -12V (A) |
| 3 | GND (A) | | | | | GND |

| P259 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | GND (A) | | | | | GND |
| 2 | +12V (A) | | | | | +12V (A) |
| 3 | -12V (A) | | | | | -12V (A) |
| 4 | GND (A) | | | | | GND |
| 5 | +8V (un) | | | | | +8V (UN) |
| 6 | -8V (un) | | | | | -8V (UN) |
| 7 | +15V (un) | | | | | +15V (UN) |
| 8 | -15V (un) | | | | | -15V (UN) |

| P260 | | FROM / TO | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | SYS AB 0 | P213-9B | P241-4A | P211-9B | | | SYS_AB_0 |
| 2 | SYS AB 1 | P213-10B | P241-5A | P211-10B | | | SYS_AB_1 |
| 3 | SYS AB 2 | P213-11B | P241-6A | P211-11B | | | SYS_AB_2 |
| 4 | SYS AB 3 | P213-12B | P241-7A | P211-12B | | | SYS_AB_3 |
| 5 | SYS AB 4 | P213-13B | P241-8A | P211-13B | | | SYS_AB_4 |
| 6 | SYS AB 5 | P213-14B | P241-9A | P211-14B | | | SYS_AB_5 |
| 7 | SYS AB 6 | P213-15B | P241-10A | P211-15B | | | SYS_AB_6 |
| 8 | SYS AB 7 | P213-16B | P241-11A | P211-16B | | | SYS_AB_7 |
| 9 | SYS RESET | P213-9C | P241-12B | P211-9C | P233-10A | P205-9C | SYS_RST |
| 10 | SYS IORD | P213-10C | P241-12A | P211-10C | | | SYS_IORD |
| 11 | SYS IOWR | P213-11C | P241-13A | P211-11C | | | SYS_IOWR |

| P261 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | SYS DB 0 | P213-9A | P241-4B | P211-9A | | SYS_DB_0 |
| 2 | SYS DB 1 | P213-10A | P241-5B | P211-10A | | SYS_DB_1 |
| 3 | SYS DB 2 | P213-11A | P241-6B | P211-11A | | SYS_DB_2 |
| 4 | SYS DB 3 | P213-12A | P241-7B | P211-12A | | SYS_DB_3 |
| 5 | SYS DB 4 | P213-13A | P241-8B | P211-13A | | SYS_DB_4 |
| 6 | SYS DB 5 | P213-14A | P241-9B | P211-14A | | SYS_DB_5 |
| 7 | SYS DB 6 | P213-15A | P241-10B | P211-15A | | SYS_DB_6 |
| 8 | SYS DB 7 | P213-16A | P241-11B | P211-16A | | SYS_DB_7 |

| P268 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | DIF CK | P216-2C | | | | DIF_CK |
| 2 | $\overline{\text{DIF CK}}$ | P216-3C | | | | -DIF_CK |
| 3 | DIF CK GND | | | | | GND |
| 4 | DBCK | P216-4A | | | | DBCK |
| 5 | $\overline{\text{DBCK}}$ | P216-4B | | | | -DBCK |
| 6 | DB CK GND | | | | | GND |

| P269 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | DAI 1A | P216-18A | | | | DAI_1A |
| 2 | DAI 1B | P216-18B | | | | DAI_1B |
| 3 | DAI 1 GND | P216-18C | | | | DAI_1_G |
| 4 | DAI 2A | P216-19A | | | | DAI_2A |
| 5 | DAI 2B | P216-19B | | | | DAI_2B |
| 6 | DAI 2 GND | P216-19C | | | | DAI_2_G |
| 7 | DAO 1A | P216-20A | | | | DAO_1A |
| 8 | DAO 1B | P216-20B | | | | DAO_1B |
| 9 | DAO 1 GND | P216-20C | | | | DAO_1_G |
| 10 | DAO 2A | P216-21A | | | | DAO_2A |
| 11 | DAO 2B | P216-21B | | | | DAO_2B |
| 12 | DAO 2 GND | P216-21C | | | | DAO_2_G |

| P270 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | VA CNT 1A | P216-22A | | | | VACNT1A |
| 2 | VA CNT 1B | P216-22B | | | | VACNT1B |
| 3 | VA CNT 1 GND | P216-22C | | | | VACNT1G |
| 4 | VA CNT 2A | P216-23A | | | | VACNT2A |
| 5 | VA CNT 2B | P216-23B | | | | VACNT2B |
| 6 | VA CNT 2 GND | P216-23C | | | | VACNT2G |

| P272 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | +15V (A) | | | | | +15V (UN) |
| 2 | -15V (A) | | | | | -15V (UN) |
| 3 | +12V (A) | | | | | +12V (A) |
| 4 | -12V (A) | | | | | -12V (A) |
| 5 | +5V (A) | | | | | +5V (A) |
| 6 | -5V (A) | | | | | -5V (A) |
| 7 | GND (A) | | | | | GND |

| P277 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | -5V (A) | | | | | -5V (A) |
| 2 | +5V (A) | | | | | +5V (A) |
| 3 | GND (A) | | | | | GND |

| P278 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | +15V (un) | | | | | +15V (UN) |
| 2 | | | | | | |
| 3 | GND (un) | | | | | GND |

| P502 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | REC DATA CH0 | P201-13A | | | | +REC_DA0 |
| 2 | $\overline{\text{REC DATA CH0}}$ | P201-13C | | | | -REC_DA0 |
| 3 | REC DATA CH0 GND | P201-14A | P201-12C | | | GND |
| 4 | REC DATA CH1 | P201-15A | | | | +REC_DA1 |
| 5 | $\overline{\text{REC DATA CH1}}$ | P201-15C | | | | -REC_DA1 |
| 6 | REC DATA CH1 GND | P201-16A | P201-14C | | | GND |
| 7 | REC CLK | P201-17A | | | | +REC_CLK |
| 8 | $\overline{\text{REC CLK}}$ | P201-17C | | | | -REC_CLK |
| 9 | REC CLK GND | P201-18A | P201-16C | | | GND |
| 10 | FRY ERASE | P201-20C | | | | FRYERASE |
| 11 | TEST EE2 | P201-20A | P245-2B | P203-20A | | TEST_EE2 |

| P503 | | FROM / TO | | | | |
|---|---|---|---|---|---|---|
| 1 | CH0 REC | P201-19C | | | | CH0_REC |
| 2 | | | | | | |
| 3 | CH1 REC | P201-19A | | | | CH1_REC |

1 2 3 4 5



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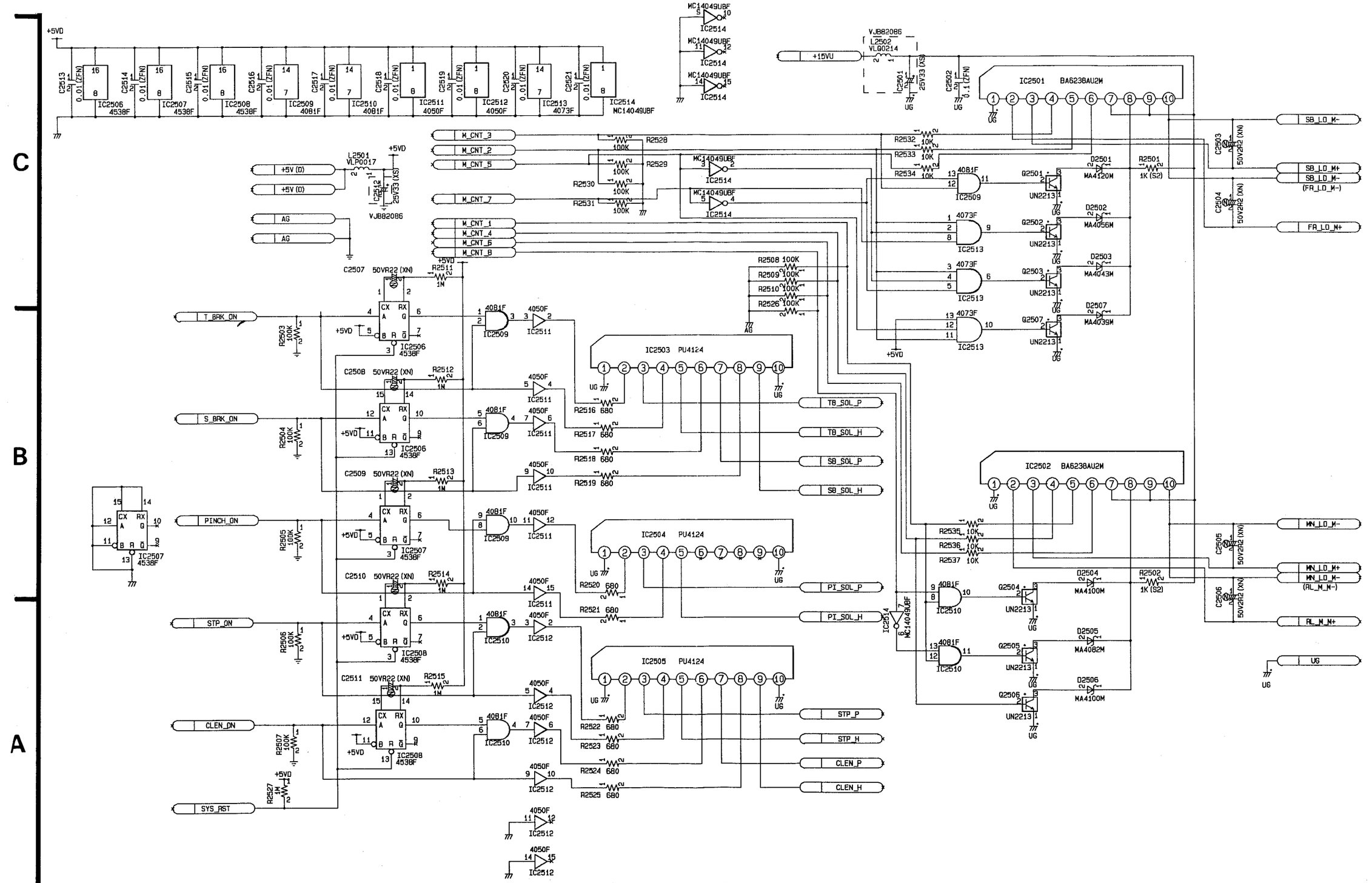
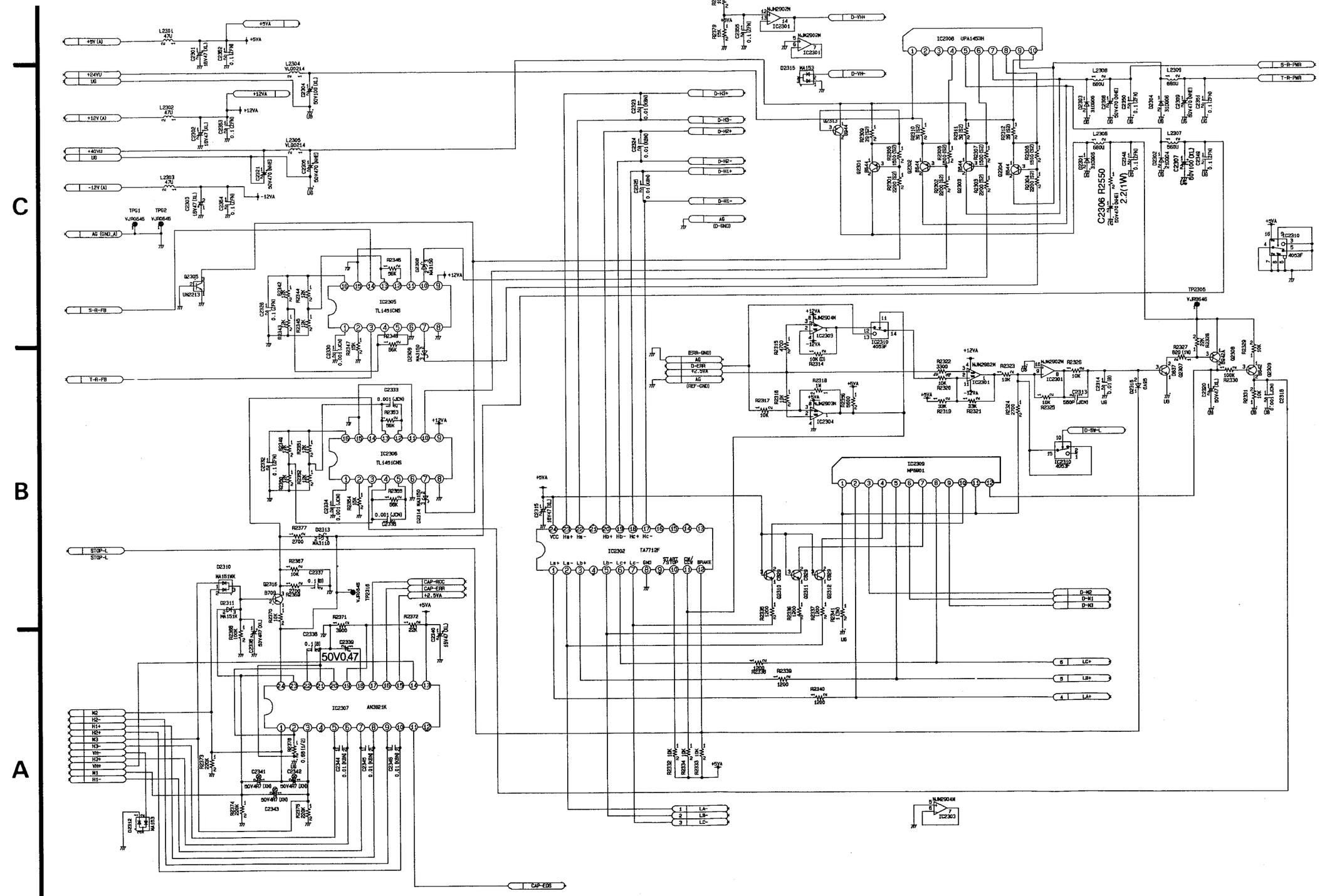
# M1 DRIVE SCHEMATIC DIAGRAM (1/4)






4—2—142

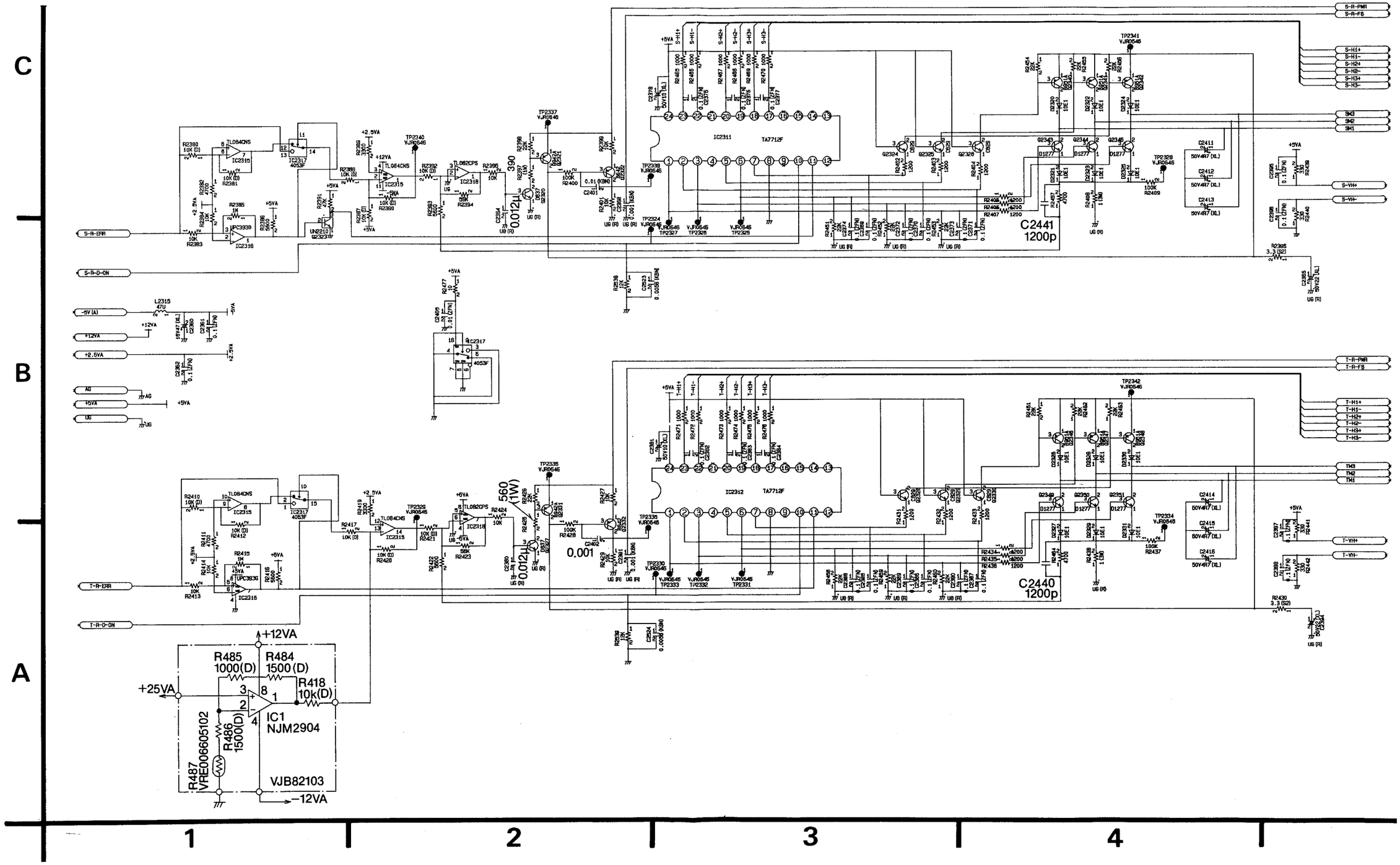
# M1 DRIVE (DRUM/CAP) SCHEMATIC DIAGRAM (2/4)






4—2—143

# M1 DRIVE (REEL) SCHEMATIC DIAGRAM (3/4)

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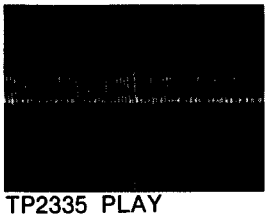
4—2—144

## NTSC

## M1 WAVEFORMS NTSC

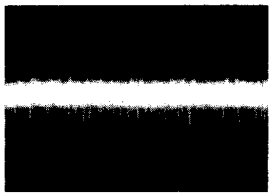
TP2305 PLAY
2V/5msec. div.



TP2335 PLAY
(TP2337, TP2339, TP2340)
100mV/5msec. div.

TP2316 PLAY
200mV/200µsec. div.

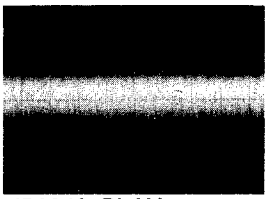
TP2336 PLAY
100mV/5msec. div.



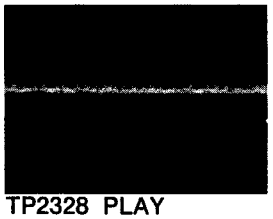
TP2324 PLAY
50mV/500µsec. div.

TP2341 PLAY
50mV/2msec. div.

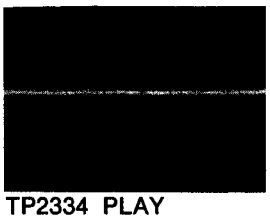
TP2325 PLAY
(TP2326, TP2327, TP2331 – TP2333)
2V/50msec. div.



TP2342 PLAY
20mV/1msec. div.

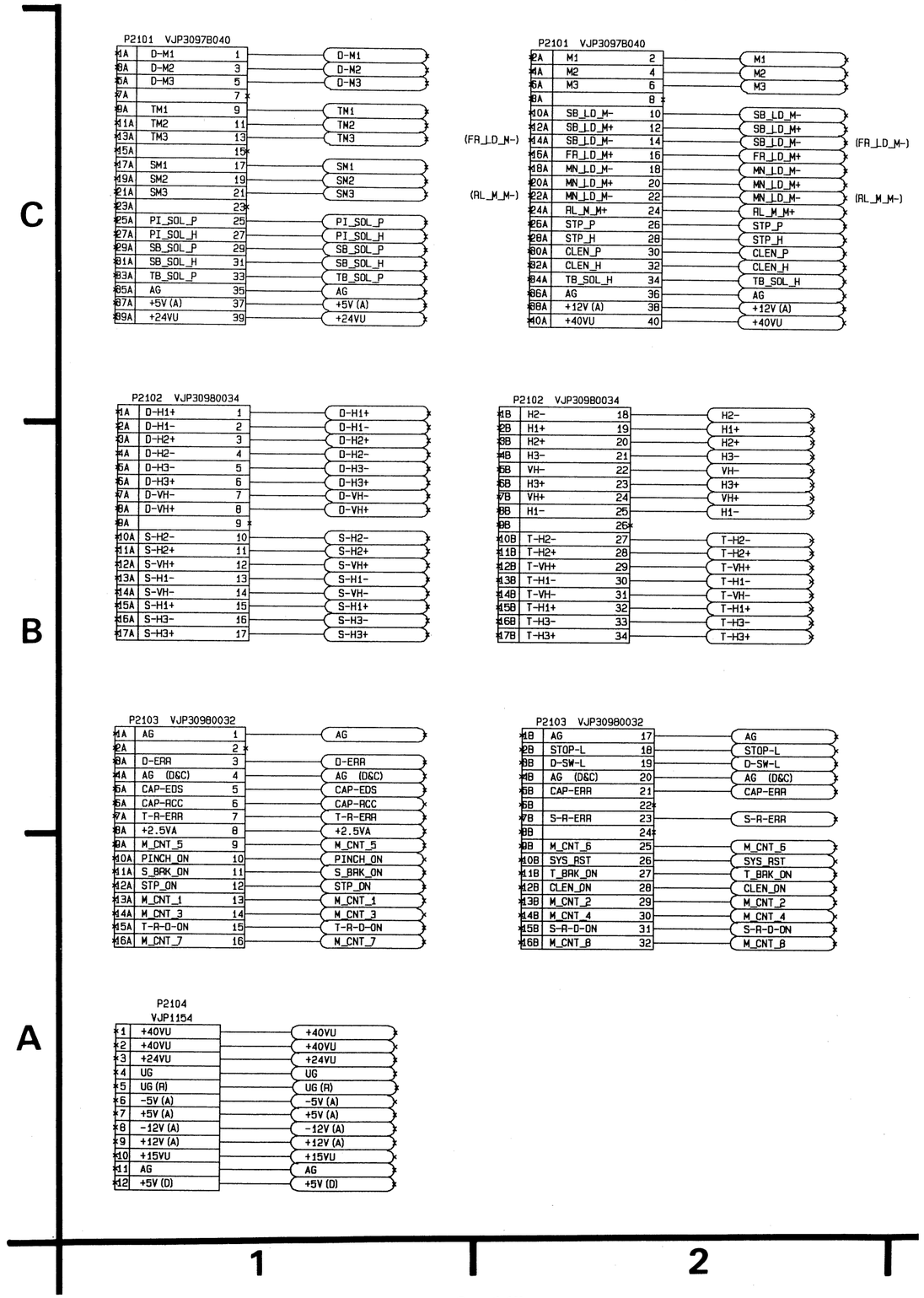


TP2328 PLAY
(TP2329, TP2330)
100mV/1msec. div.



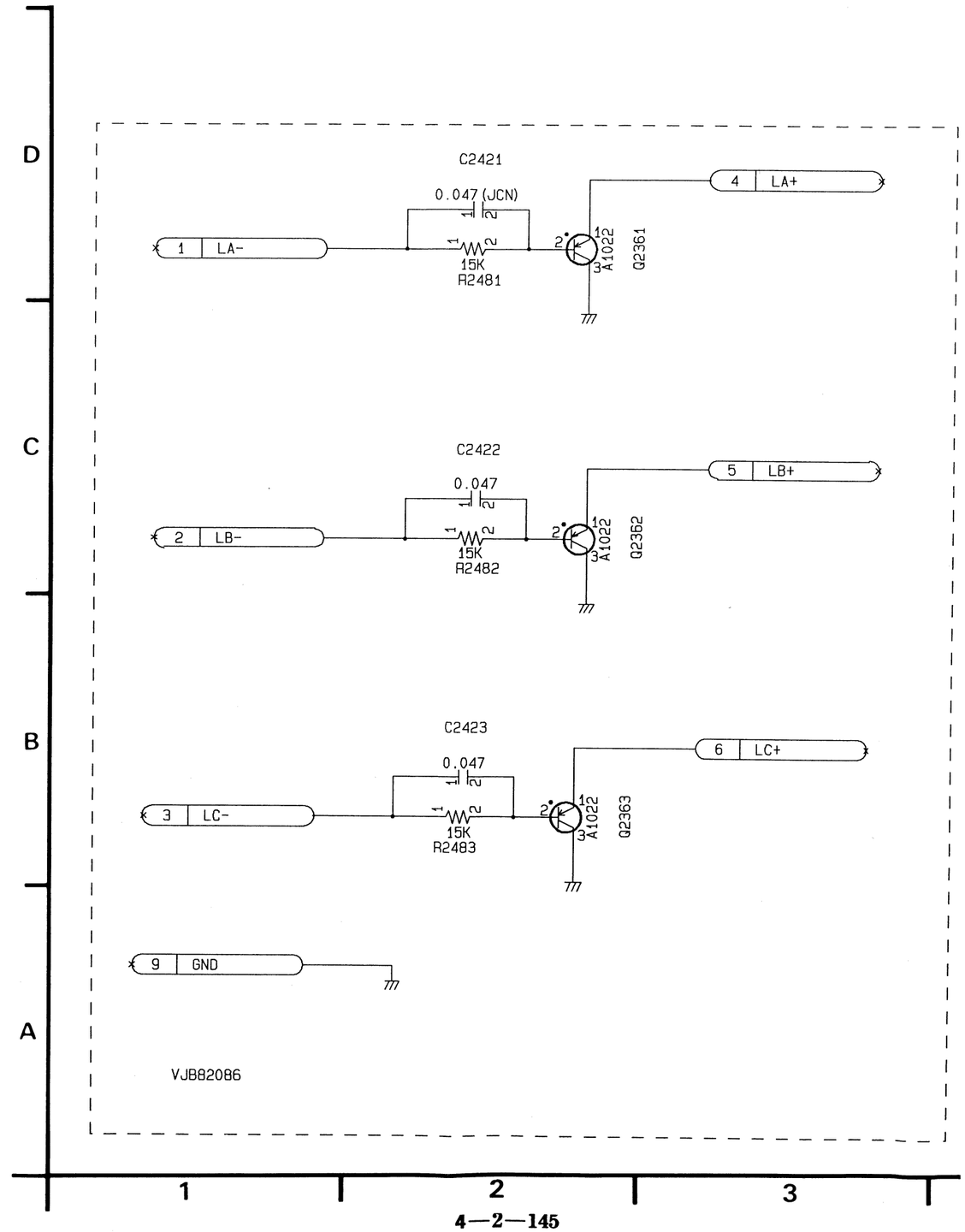
TP2334 PLAY
100mV/200µsec. div.

# M1 DRIVE (CONNECTOR) SCHEMATIC DIAGRAM (4/4)






# M1 DRIVE SUB SCHEMATIC DIAGRAM



# REC AMP SCHEMATIC DIAGRAM (1/7)

C

B

A

P501 VJP1234T

| | | | | | |
|---|---|---|---|---|---|
| P272-1 | 1 | +15V | | 4 | +15V |
| | 2 | NC | | | |
| | 3 | NC | | | |
| P272-4 | 4 | -12V | | 4 | -12V |
| P272-5 | 5 | +5V | | 2 | +5V |
| P272-6 | 6 | -5V | | 2 | -5V |
| P272-7 | 7 | GND | | | GND |

P502 VJP1511T

| | | | | | |
|---|---|---|---|---|---|
| P018-3 | 1 | REC_DATA_CH0 | | 2 | REC_DA0+ |
| P018-4 | 2 | REC_DATA_CH0_L | | 2 | REC_DA0- |
| P018-5 | 3 | REC_DATA_GND | | | GND |
| P018-6 | 4 | REC_DATA_CH1 | | 2 | REC_DA1+ |
| P018-7 | 5 | REC_DATA_CH1_L | | 2 | REC_DA1- |
| P018-8 | 6 | REC_DATA_GND | | | GND |
| P018-9 | 7 | REC_CLK | | 2 | REC_CLK+ |
| P018-10 | 8 | REC_CLK_L | | 2 | REC_CLK- |
| P018-11 | 9 | REC_CLK_GND | | | GND |
| P018-12 | 10 | FLY_ERASE | | 3 | FE_L |
| P018-13 | 11 | TEST_EE2 | | 2 | TEST_EE2 |

P503 VJP1230T

| | | | | | |
|---|---|---|---|---|---|
| P018-1 | 1 | CH0 REC | | 5 | CH0_REC |
| P018-2 | 2 | GND | | | GND |
| P018-3 | 3 | CH1 REC | | 6 | CH1_REC |

P504 VJP1233G

| | | | | | |
|---|---|---|---|---|---|
| DRUM | 1 | REC CH0 A | | 5 | REC_0_A+ |
| DRUM | 2 | $\overline{\text{REC CH0 A}}$ | | 5 | REC_0_A- |
| DRUM | 3 | GND | | 5 | GND |
| DRUM | 4 | REC CH0 B | | 5 | REC_0_B+ |
| DRUM | 5 | $\overline{\text{REC CH0 B}}$ | | 5 | REC_0_B- |
| DRUM | 6 | GND | | 5 | GND |

P511 VJP1233R

| | | | | | |
|---|---|---|---|---|---|
| DRUM | 1 | REC CH1 A | | 6 | REC_1_A+ |
| DRUM | 2 | $\overline{\text{REC CH1 A}}$ | | 6 | REC_1_A- |
| DRUM | 3 | GND | | 6 | GND |
| DRUM | 4 | REC CH1 B | | 6 | REC_1_B+ |
| DRUM | 5 | $\overline{\text{REC CH1 B}}$ | | 6 | REC_1_B- |
| DRUM | 6 | GND | | 6 | GND |

VJP1231T P505

| | | | | | |
|---|---|---|---|---|---|
| SER_HSW | 3 | | | SER H SW | 1 P256-1 |
| GND | | | | SER H GND | 2 P256-2 |
| TEST_MOD | 2 | | | TEST MODE | 3 P256-3 |
| REC_MODE | 5 | | | REC MODE | 4 P256-4 |

VJP1231T P506

| | | | | | |
|---|---|---|---|---|---|
| ENV_CH0 | 7 | | | REC ENV CH0 | 1 P235-1 |
| GND | 7 | | | GND | 2 P235-2 |
| ENV_CH1 | 7 | | | REC ENV CH1 | 3 P235-3 |
| GND | 7 | | | GND | 4 P235-4 |

VJP1230T P507

| | | | | | |
|---|---|---|---|---|---|
| REC_CUR0 | 5 | | | REC CURR CH0 | 1 P240-1 |
| REC_CUR1 | 6 | | | REC CURR CH1 | 2 P240-2 |
| GND | | | | GND | 3 P240-3 |

VJP1233T P508

| | | | | | |
|---|---|---|---|---|---|
| E-ECH0+ | 2 | | | EE_CH0_DATA | 1 P219-1 |
| E-ECH0- | 2 | | | EE_CH0_DATA_L | 2 P219-2 |
| GND | | | | EE_CH0_DATA_GND | 3 P219-3 |
| E-ECH1+ | 2 | | | EE_CH1_DATA | 4 P224-1 |
| E-ECH1- | 2 | | | EE_CH1_DATA_L | 5 P224-2 |
| GND | | | | EE_CH1_DATA_GND | 6 P224-3 |

VJP1230T P509

| | | | | | |
|---|---|---|---|---|---|
| AT_HSW0 | 3 | | | HSW0 | 1 P219-4 |
| | | | | | 2 |
| AT_HSW1 | 3 | | | HSW1 | 3 P224-4 |

VJP1230T P510

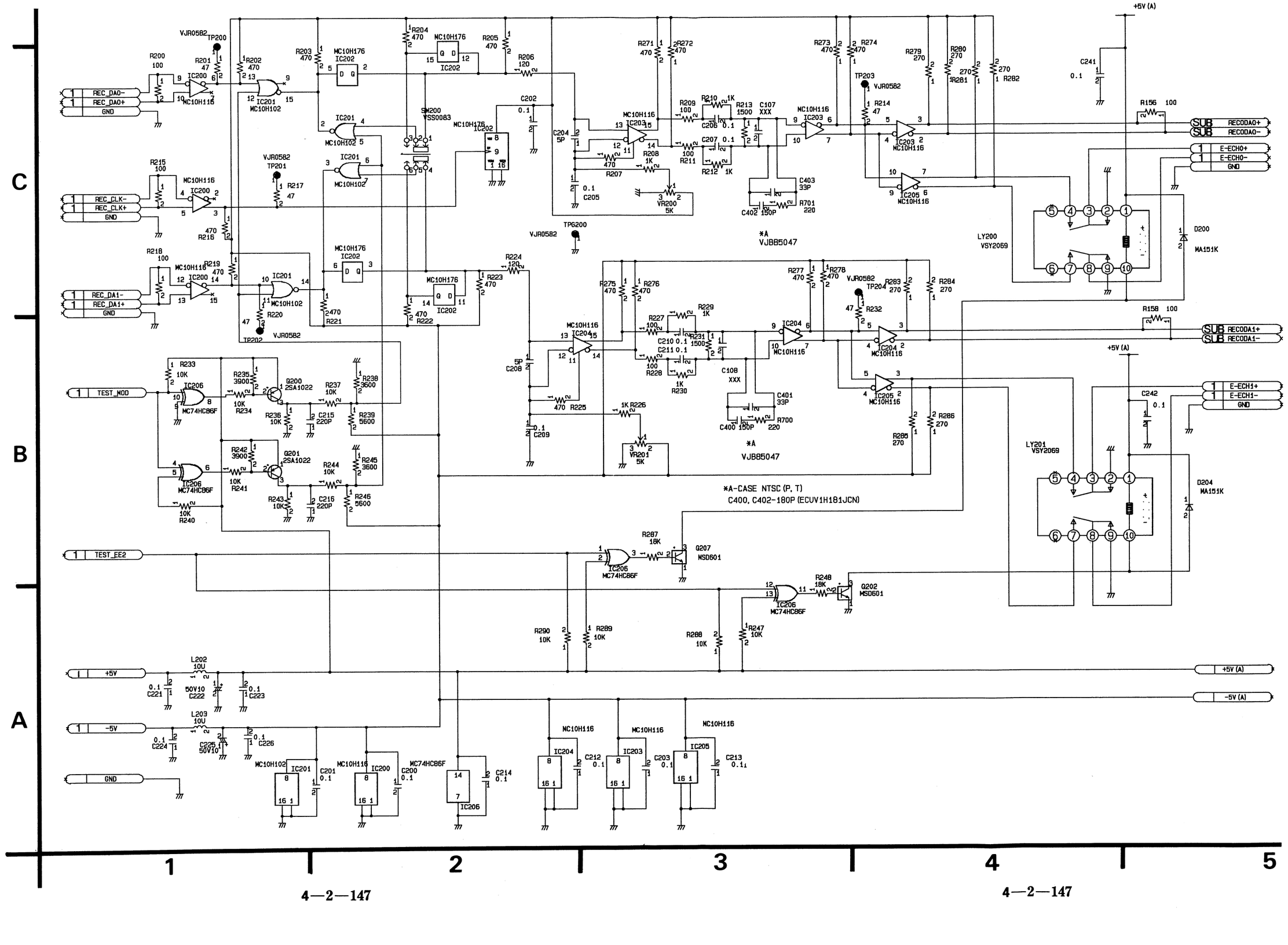
| | | | | | |
|---|---|---|---|---|---|
| FE_A | 3 | | | FE A | 1 P526-1 |
| FE_B | 3 | | | FE B | 2 P526-2 |
| GND | | | | GND | 3 P526-3 |

1 2 3 4



4—2—146

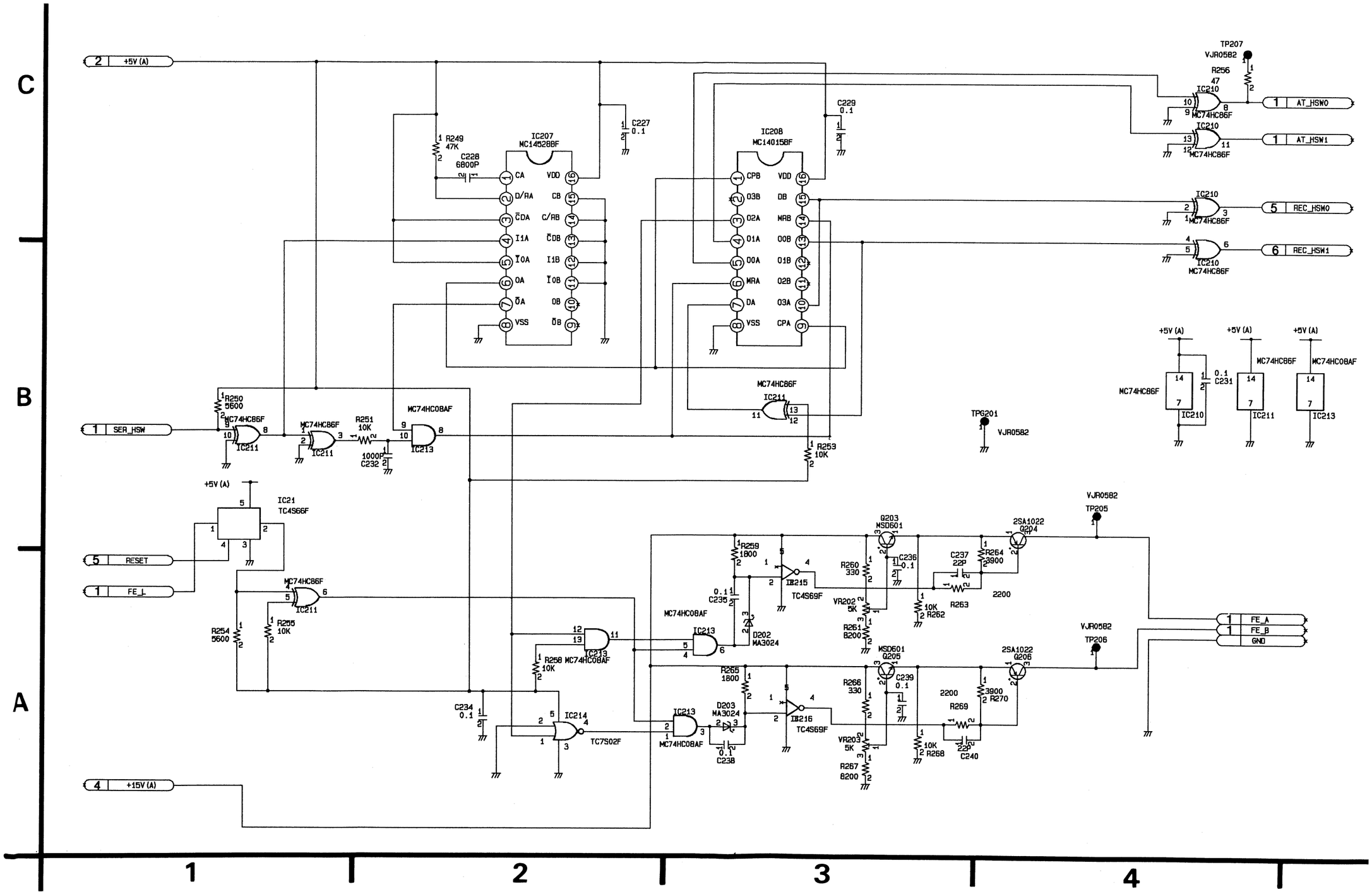
# REC AMP SCHEMATIC DIAGRAM (2/7)






4—2—147

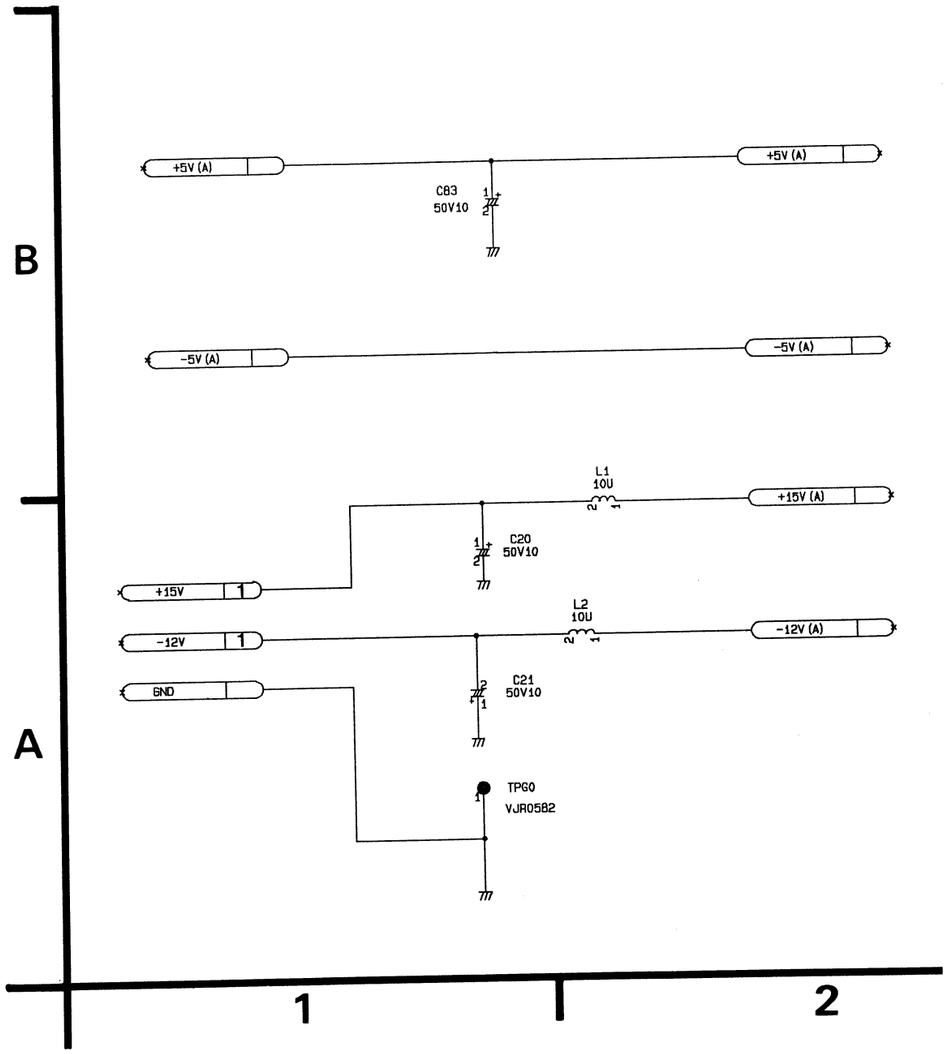
# REC AMP SCHEMATIC DIAGRAM (3/7)

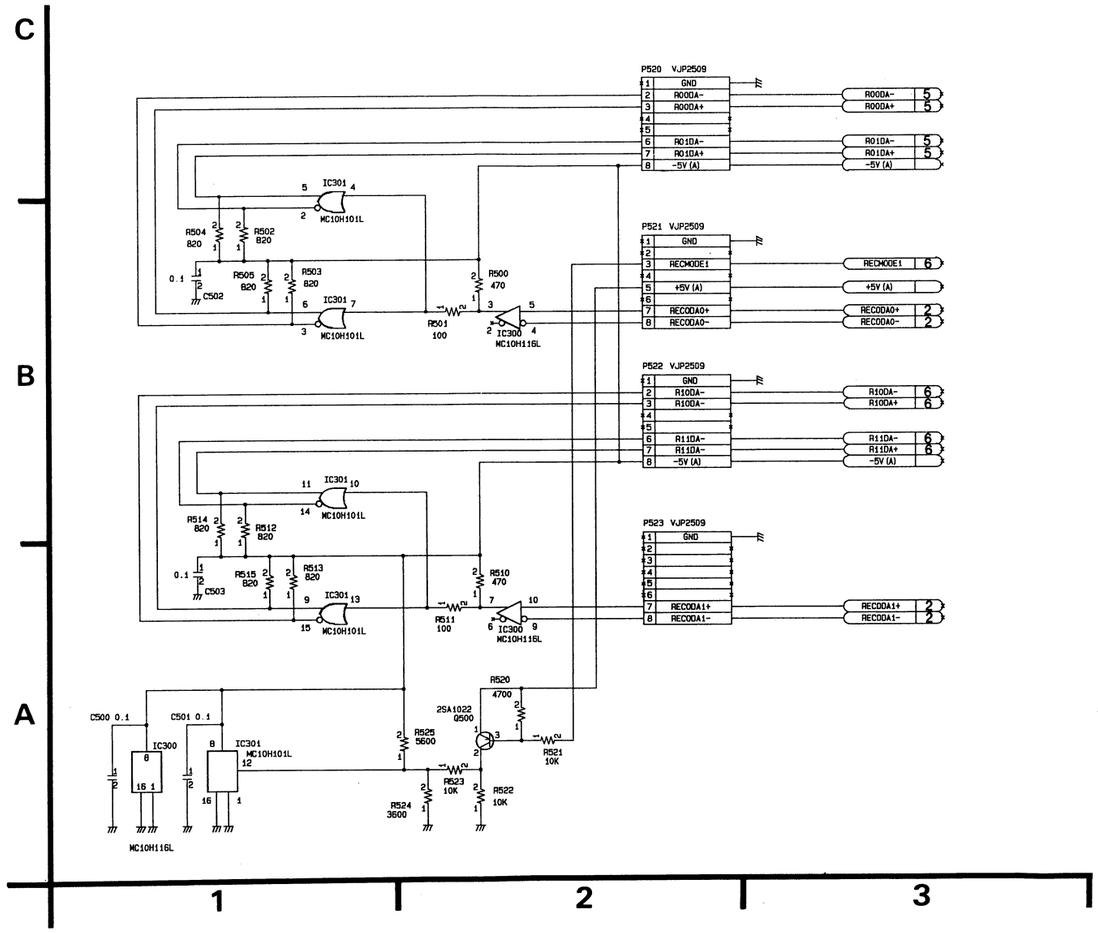





4—2—148

# REC AMP SUB SCHEMATIC DIAGRAM

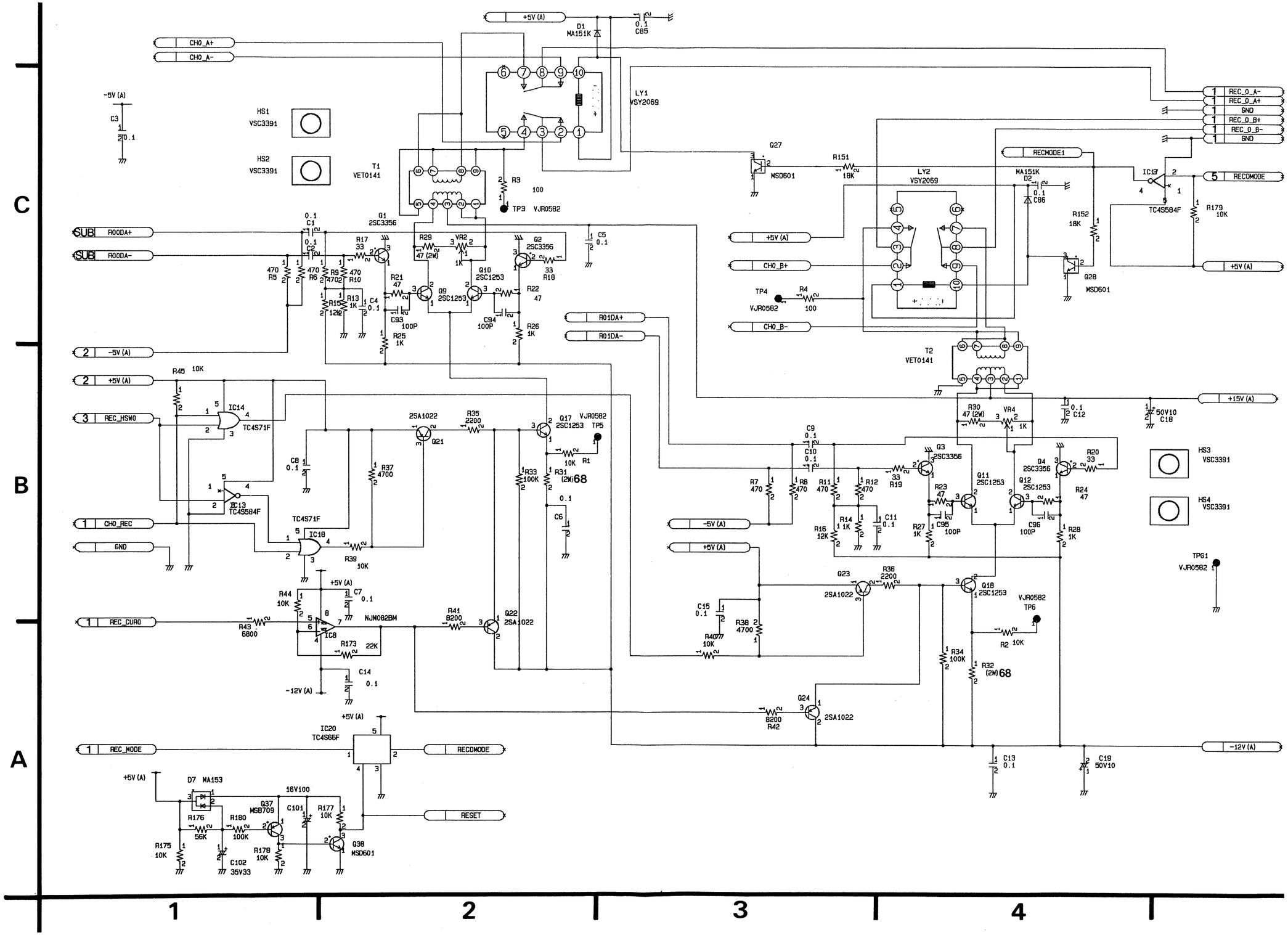





4—2—149

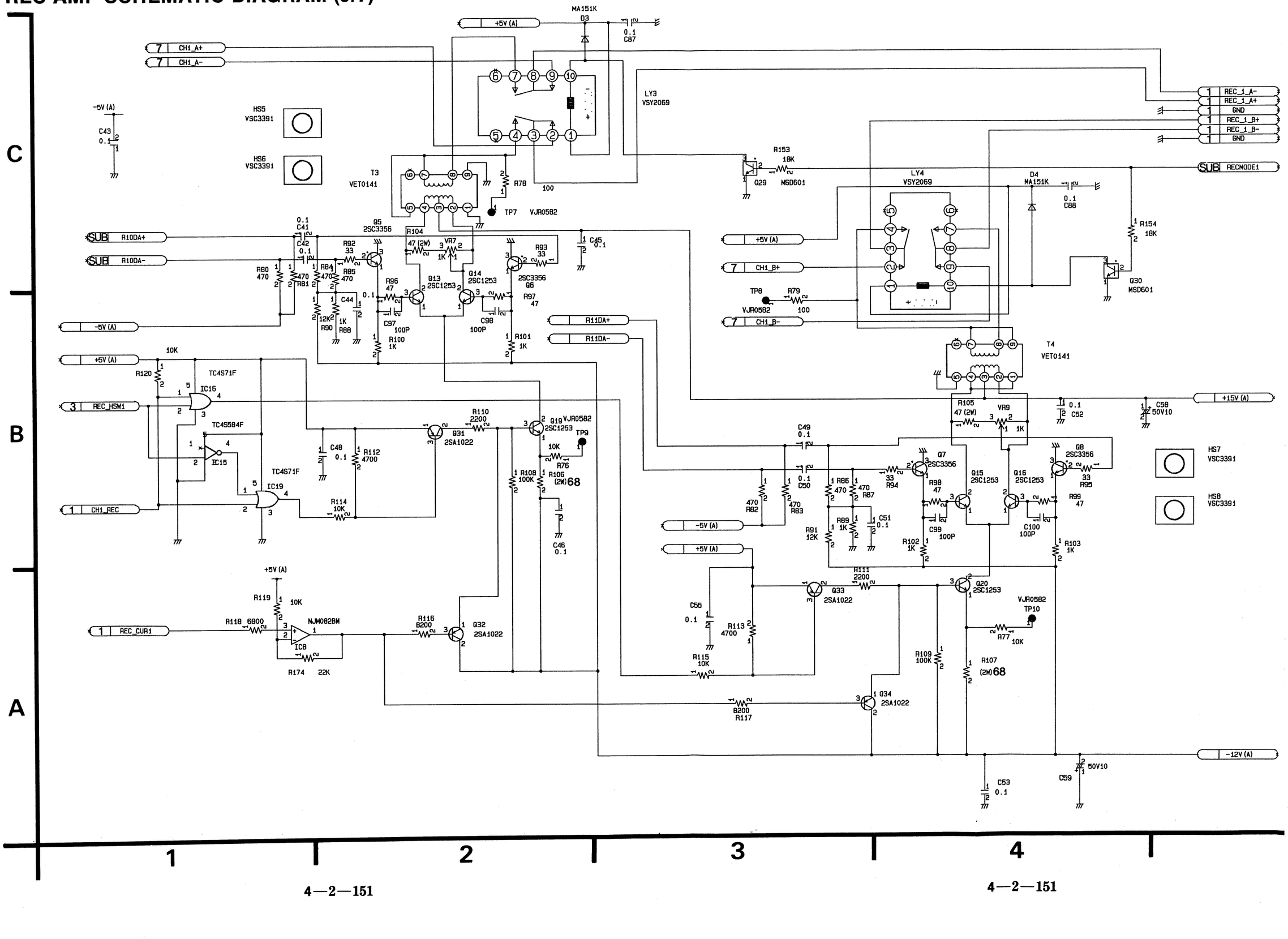
# REC AMP SCHEMATIC DIAGRAM (5/7)




4—2—150

4—2—150

# REC AMP SCHEMATIC DIAGRAM (6/7)




C

B

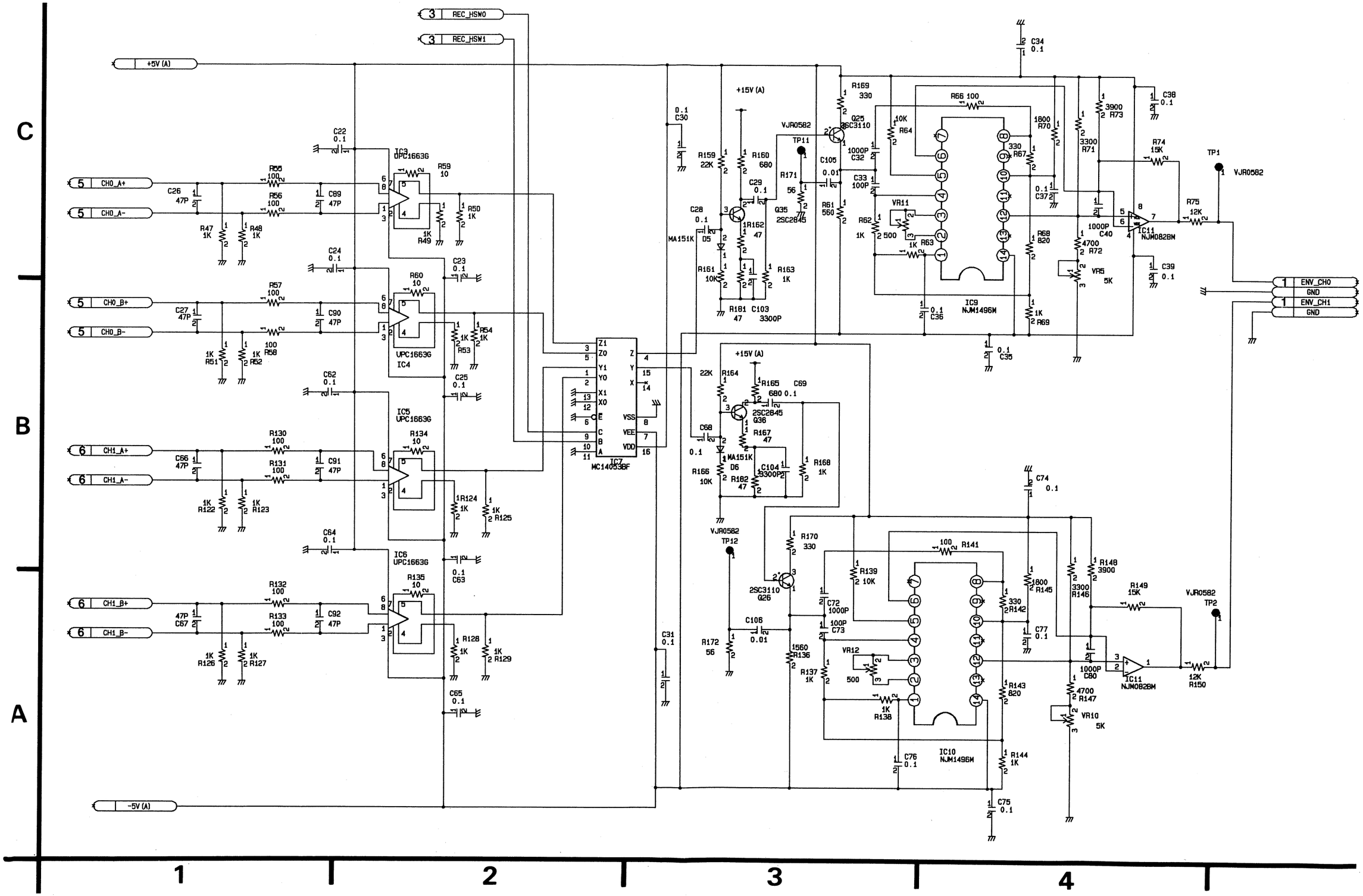
A

1 2 3 4



4—2—151

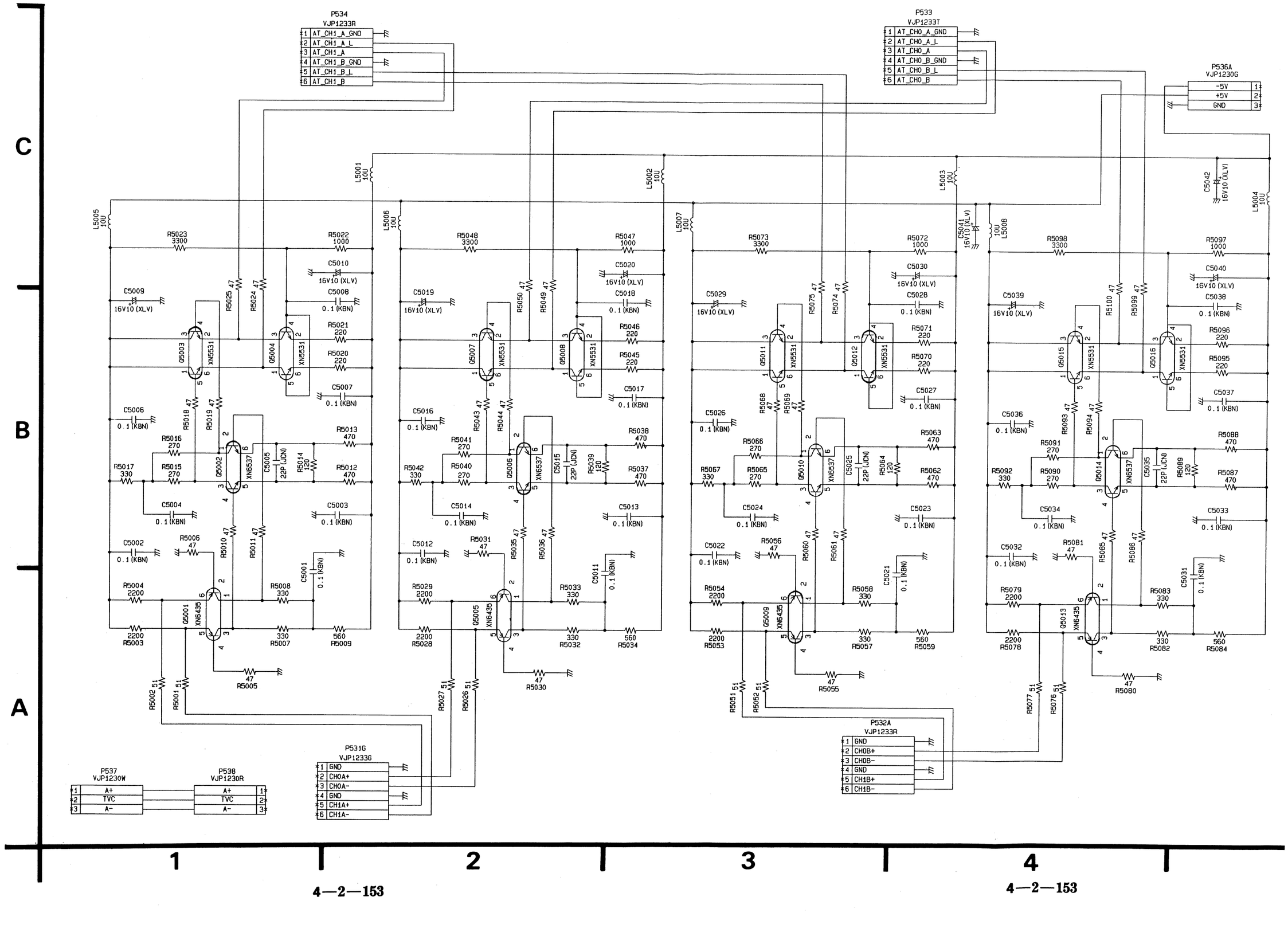
# REC AMP SCHEMATIC DIAGRAM (7/7)






4—2—152

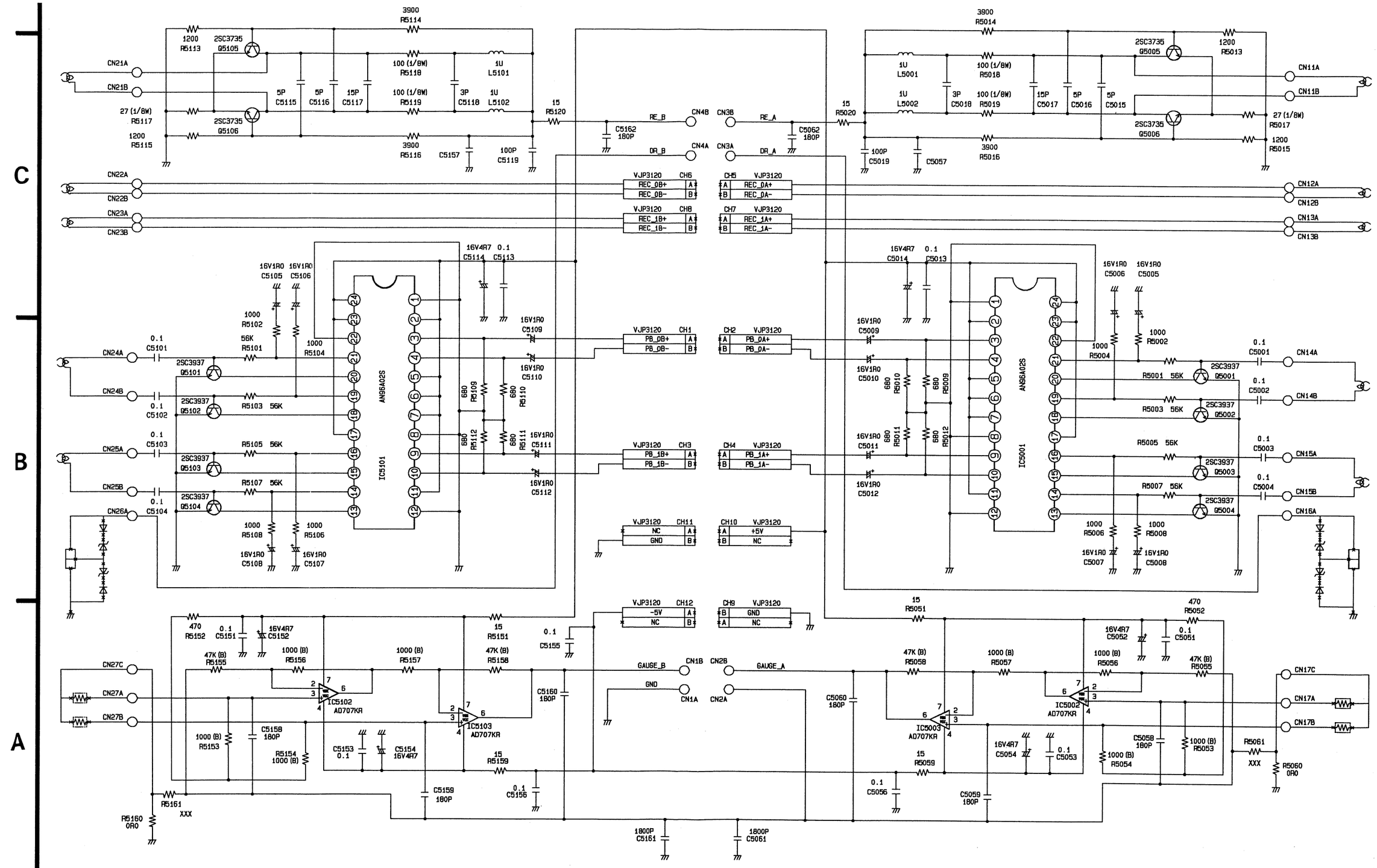
# BUFFER AMP SCHEMATIC DIAGRAM






4—2—153

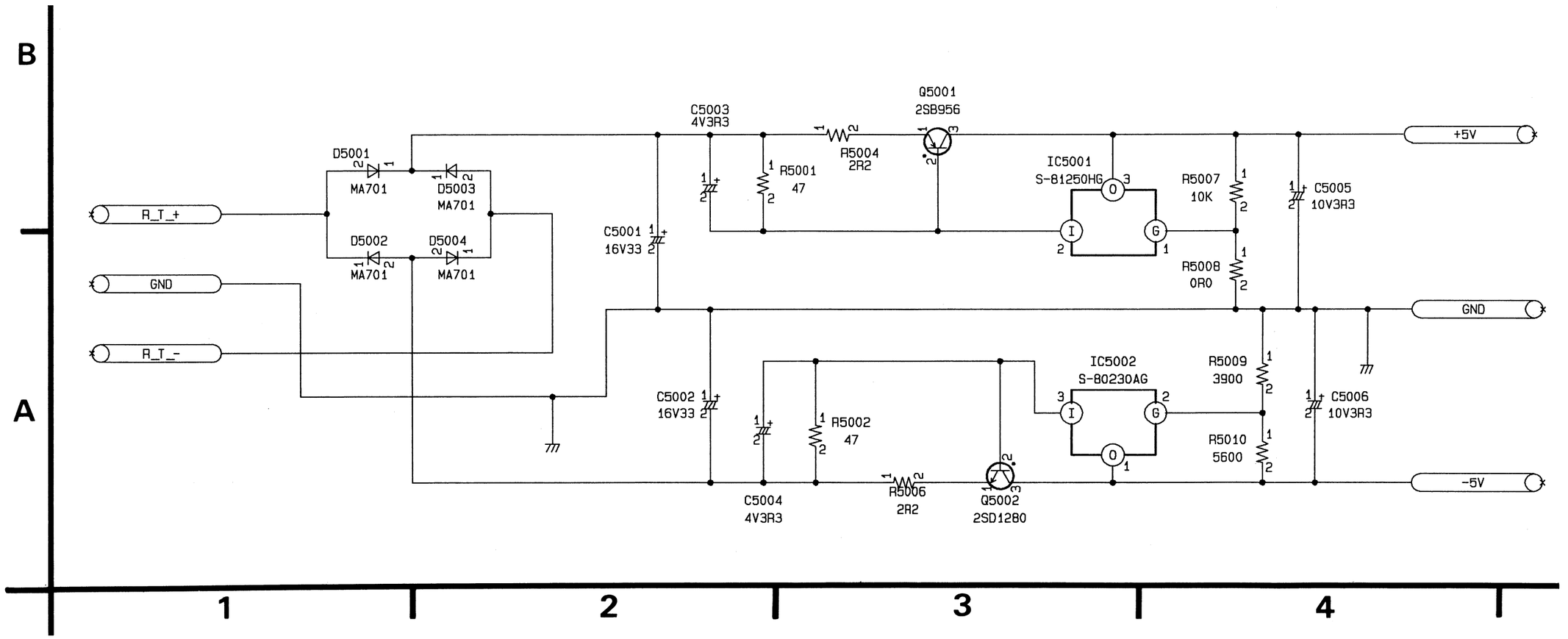
# HEAD AMP SCHEMATIC DIAGRAM






4—2—154

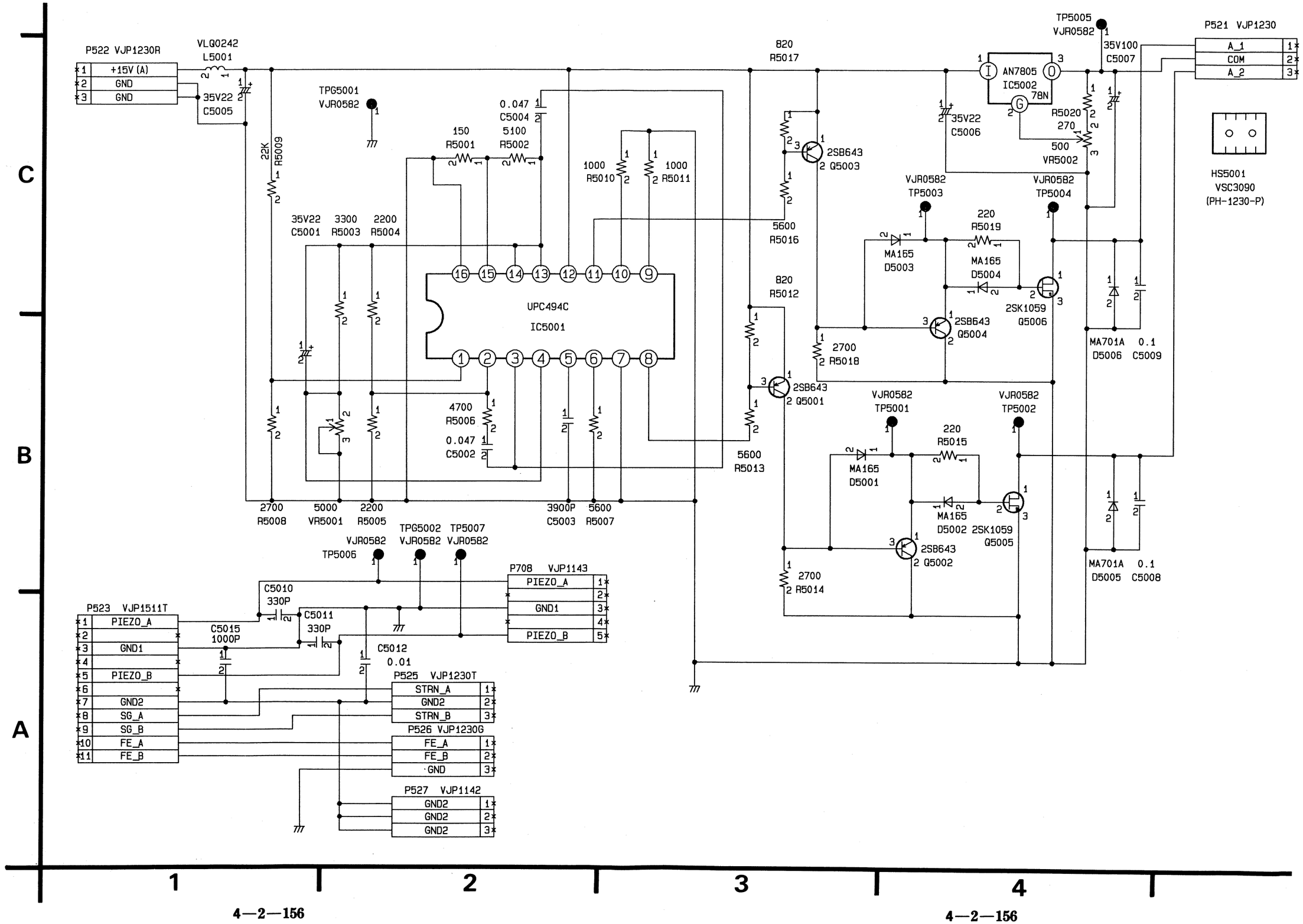
# HA POWER SCHEMATIC DIAGRAM






4—2—155

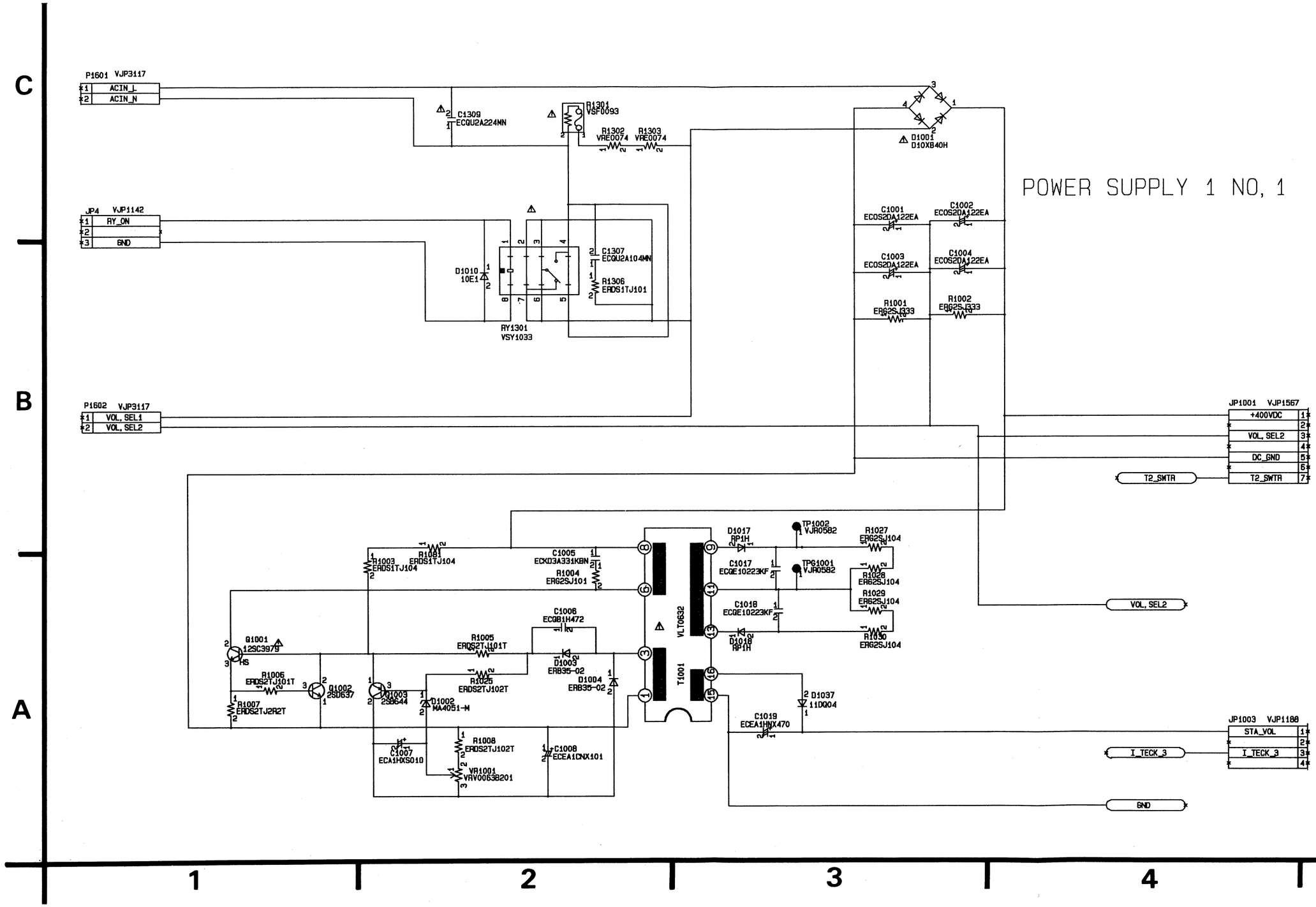
# HA REGULATOR SCHEMATIC DIAGRAM






4—2—156

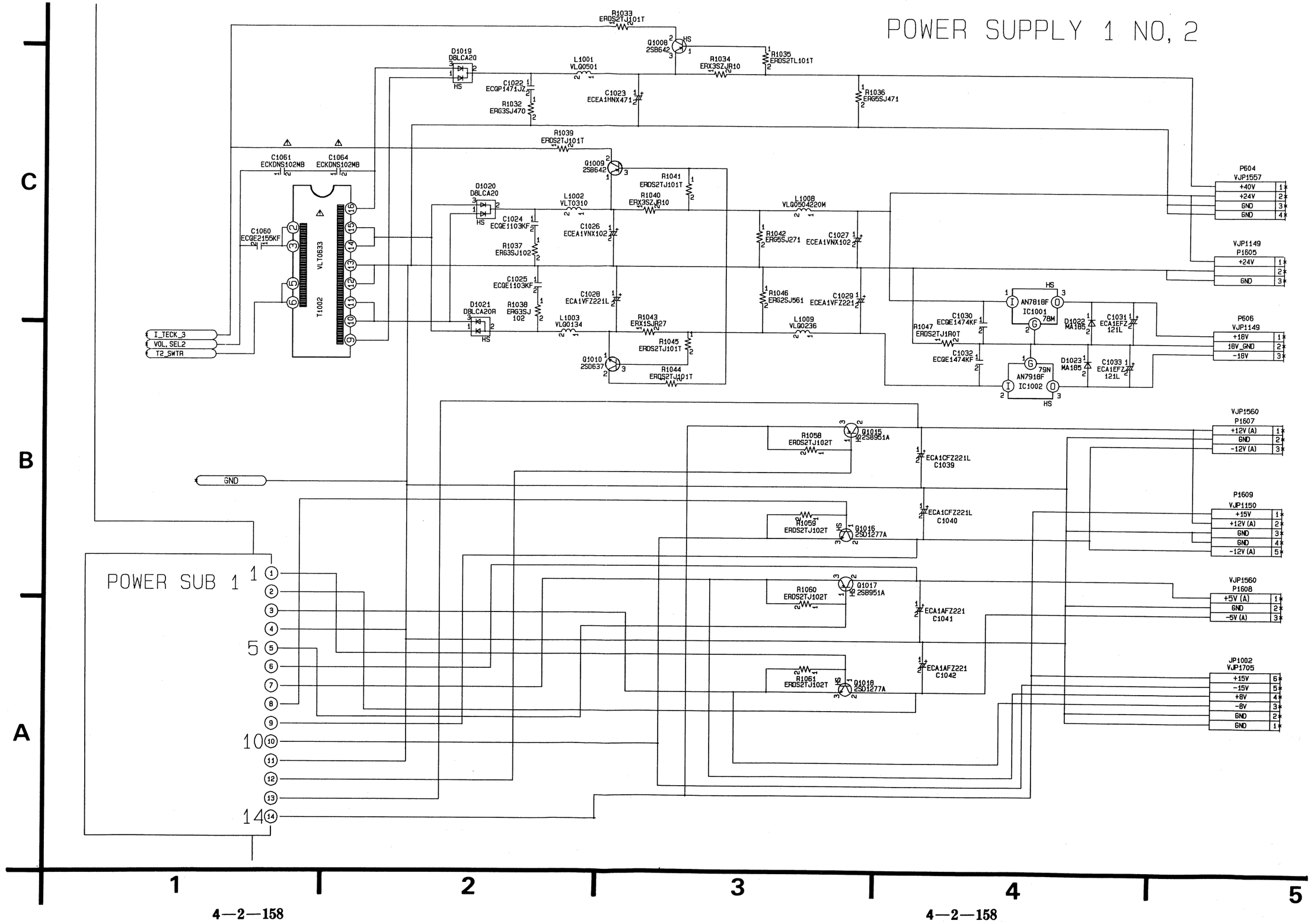
# POWER SUPPLY 1 SCHEMATIC DIAGRAM (1/2)






4—2—157

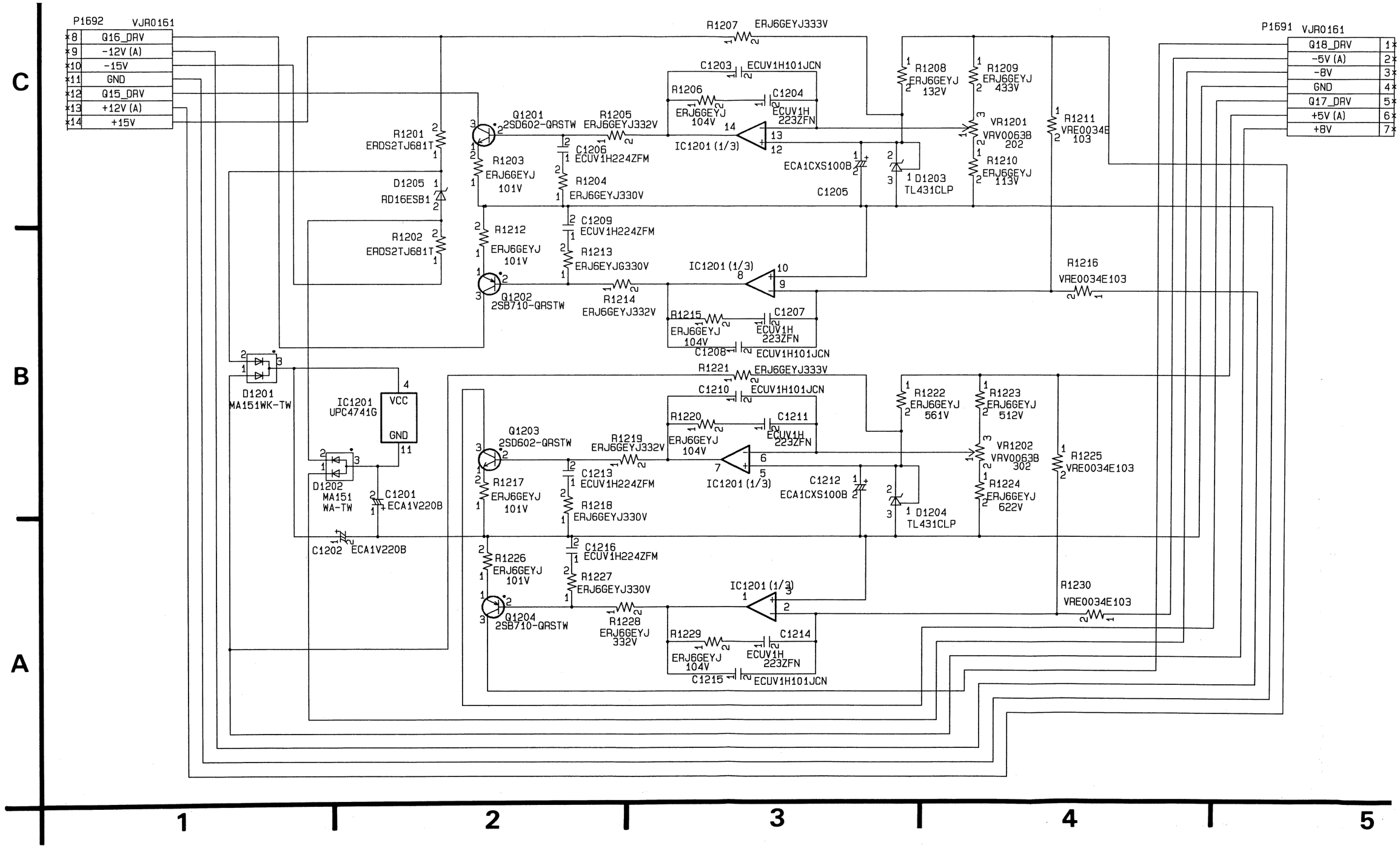
# POWER SUPPLY 1 SCHEMATIC DIAGRAM (2/2)






4—2—158

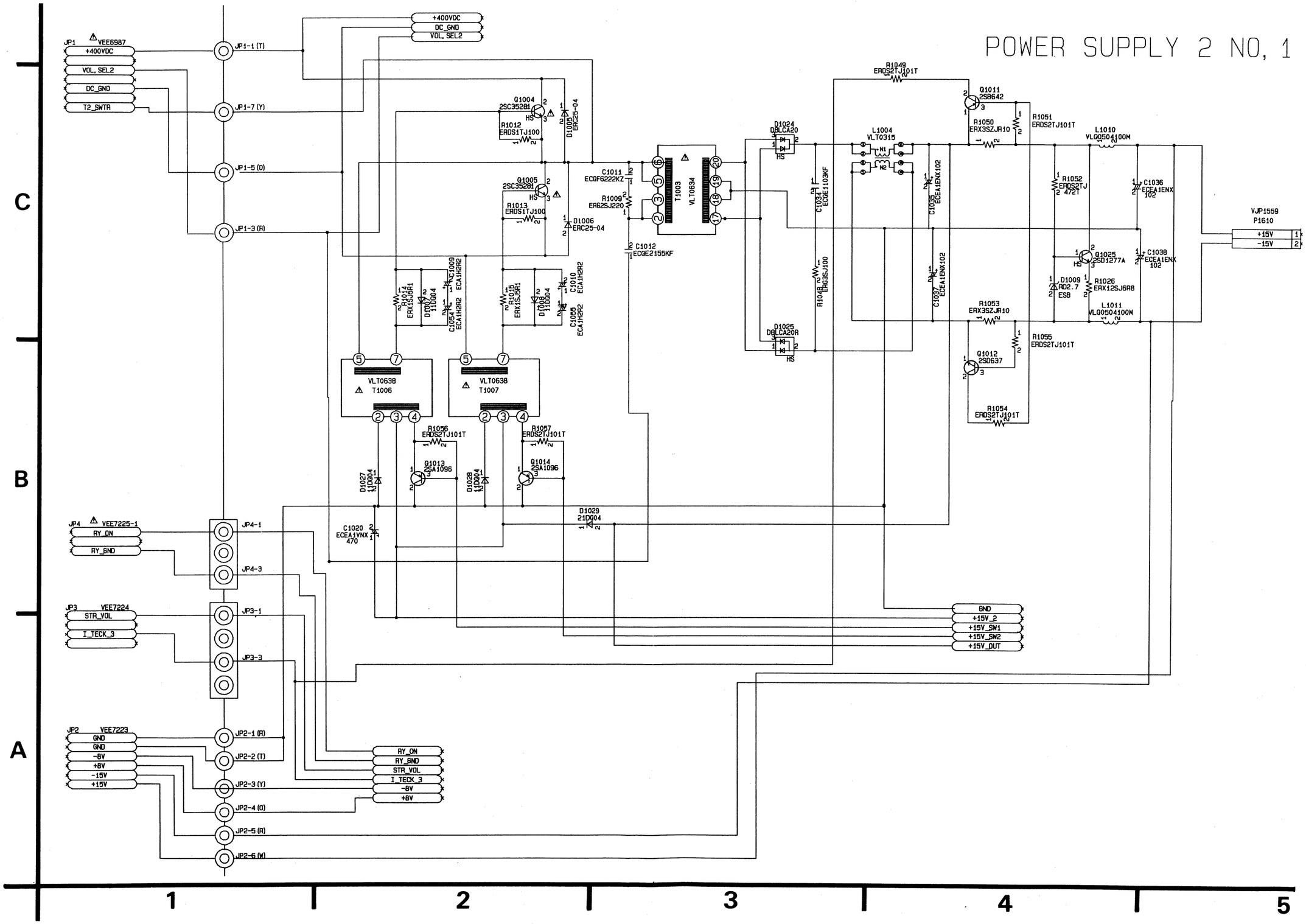
# POWER SUPPLY SUB1 SCHEMATIC DIAGRAM






4—2—159

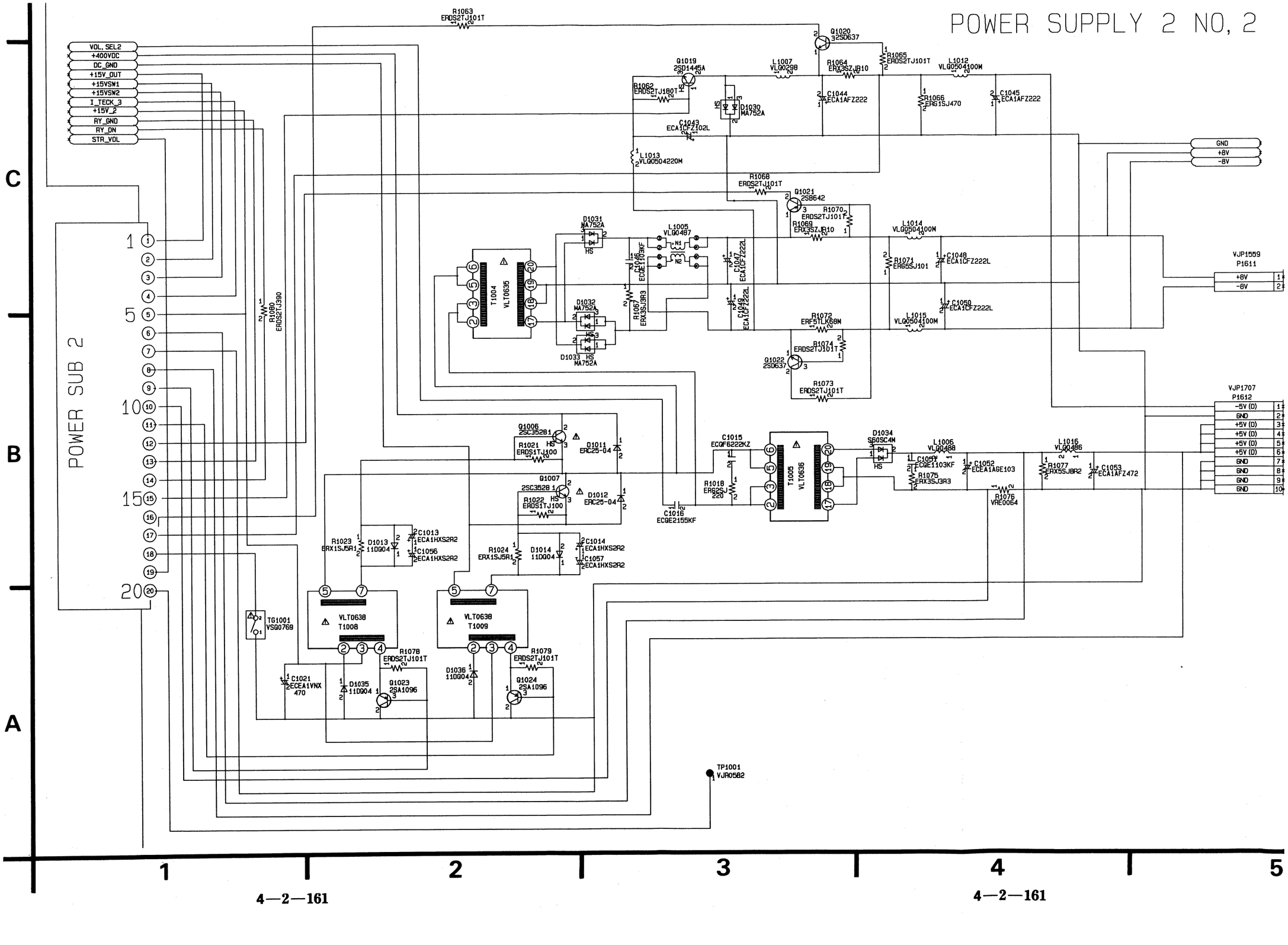
# POWER SUPPLY 2 SCHEMATIC DIAGRAM (1/2)






4—2—160

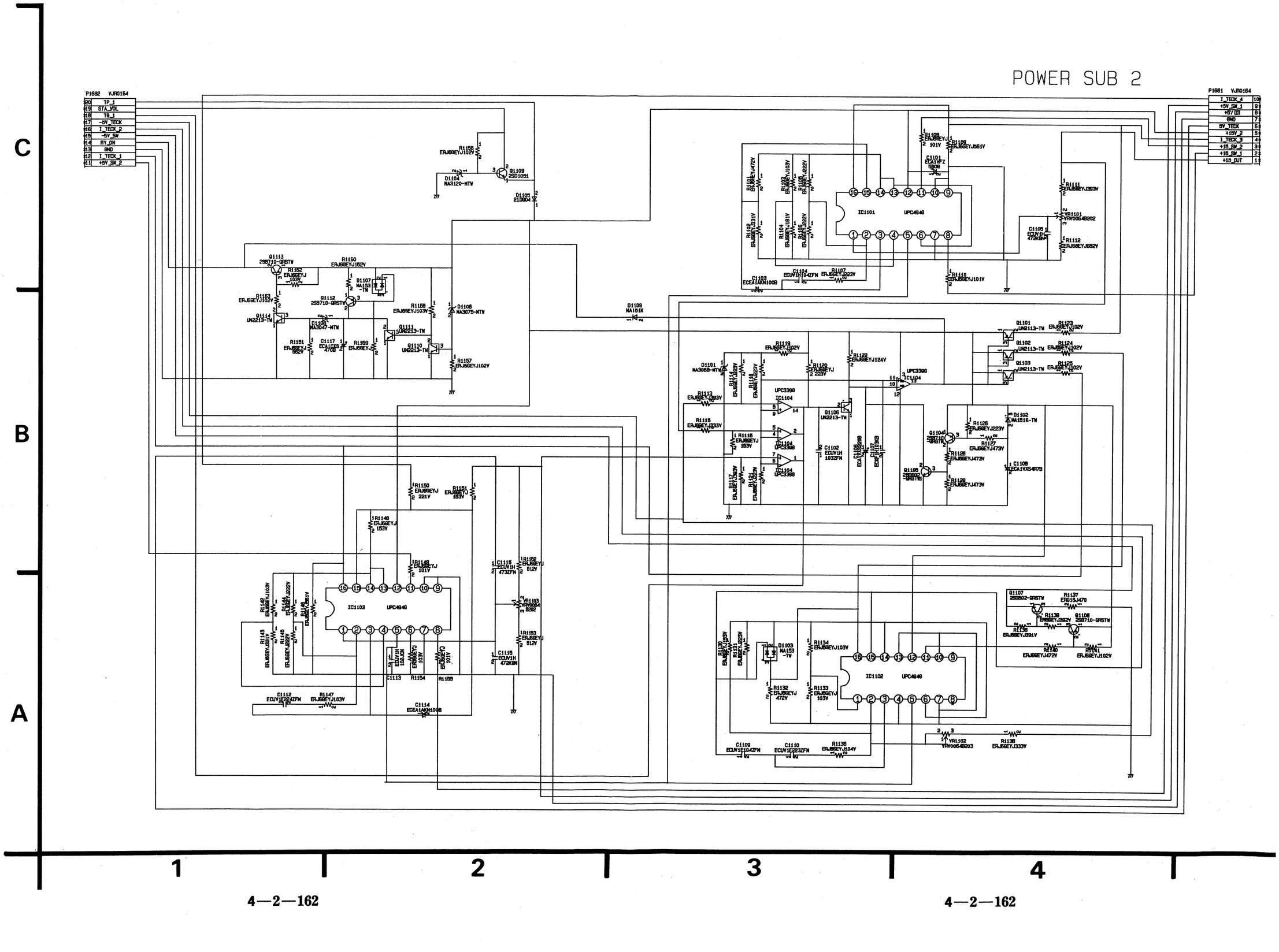
# POWER SUPPLY 2 SCHEMATIC DIAGRAM (2/2)






4—2—161

# POWER SUPPLY SUB2 SCHEMATIC DIAGRAM



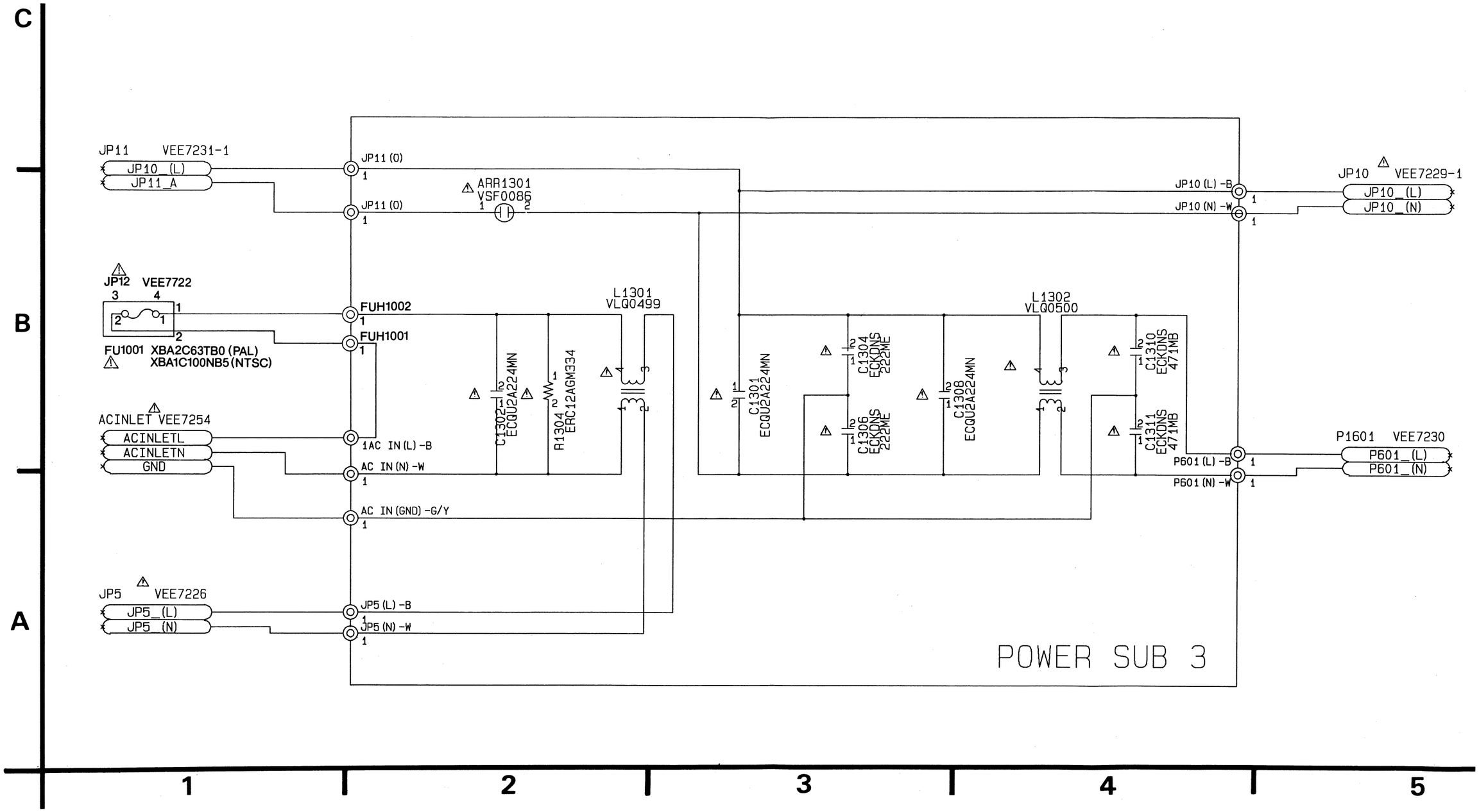

4—2—162

4—2—162

# POWER SUPPLY SUB3 SCHEMATIC DIAGRAM

POWER SUB3 P.C.B.

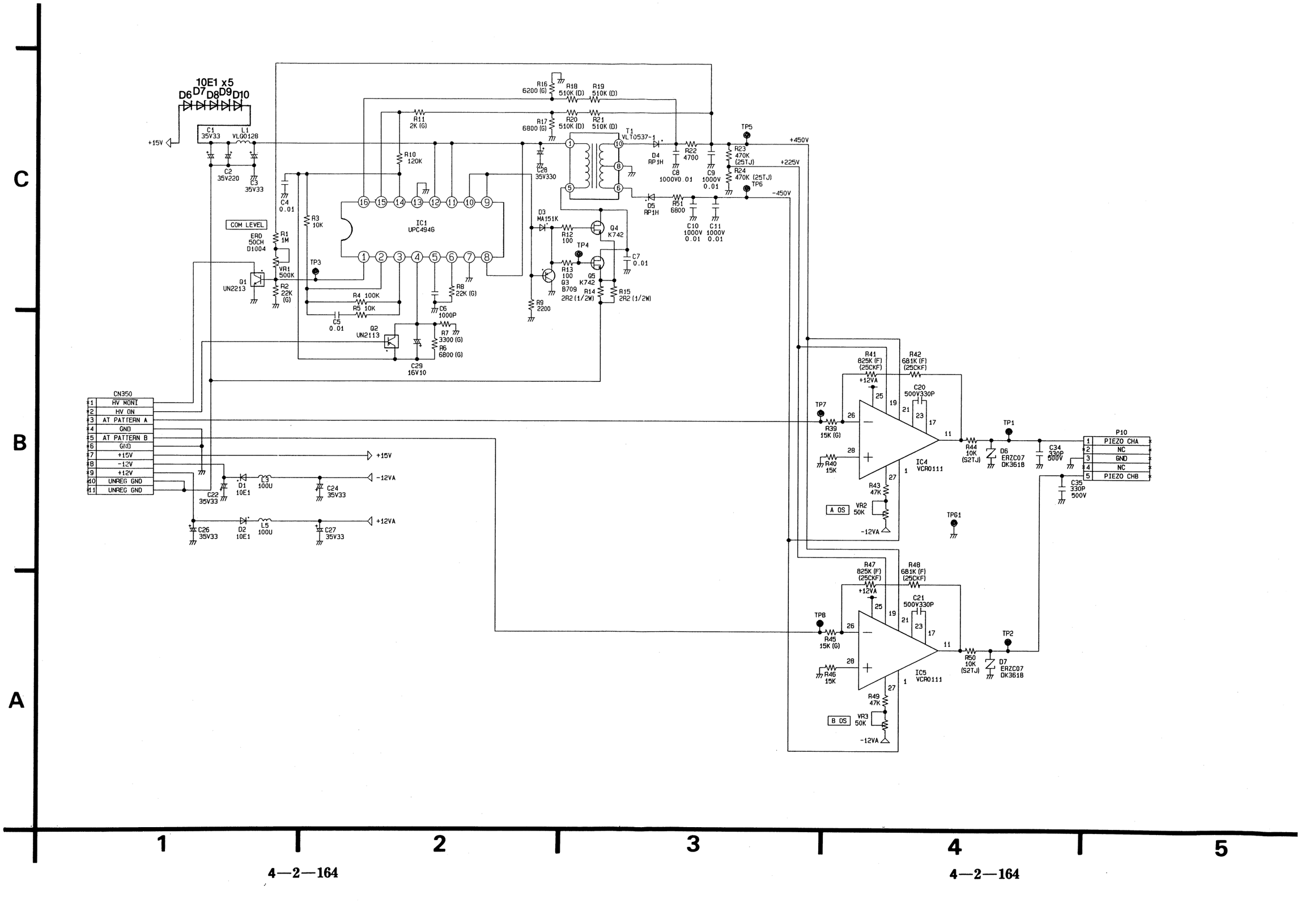
| REF. NO. | NTSC | PAL |
|---|---|---|
| FU1001 | VSF0087 | XBA2C63TB0 |






4—2—163

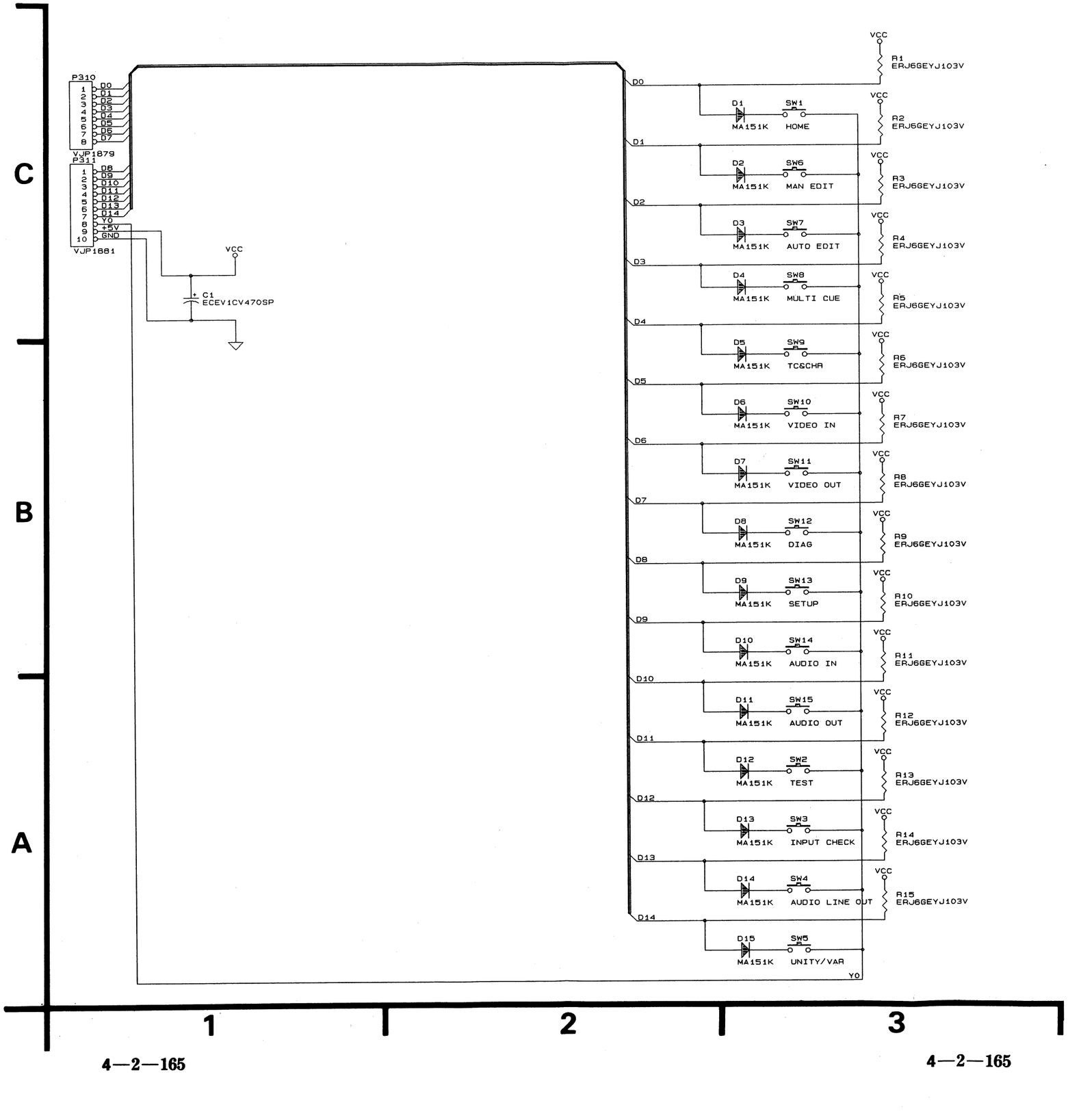
# AT POWER SCHEMATIC DIAGRAM




4—2—164

4—2—164

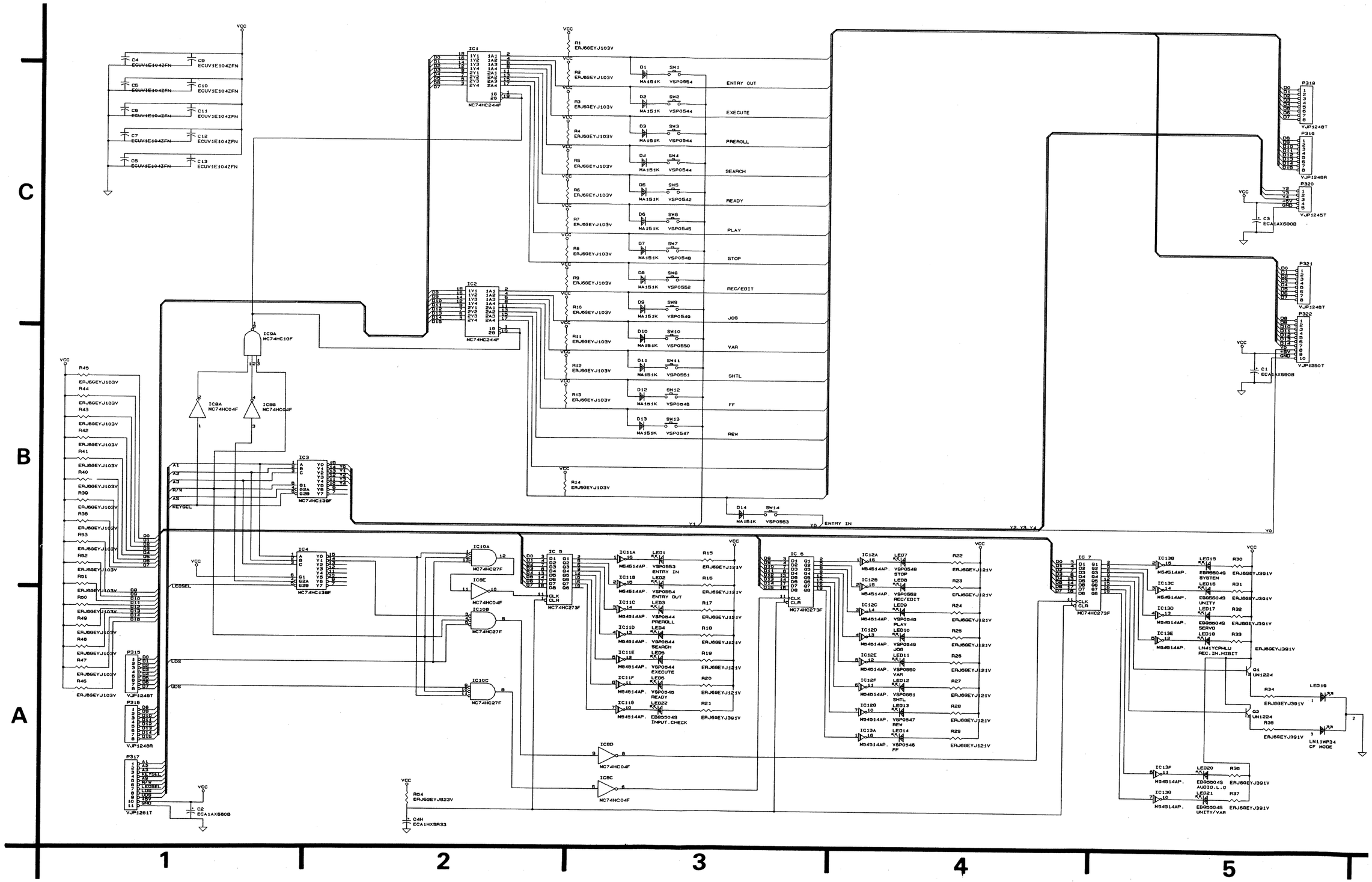
# FR MODE SCHEMATIC DIAGRAM






4—2—165

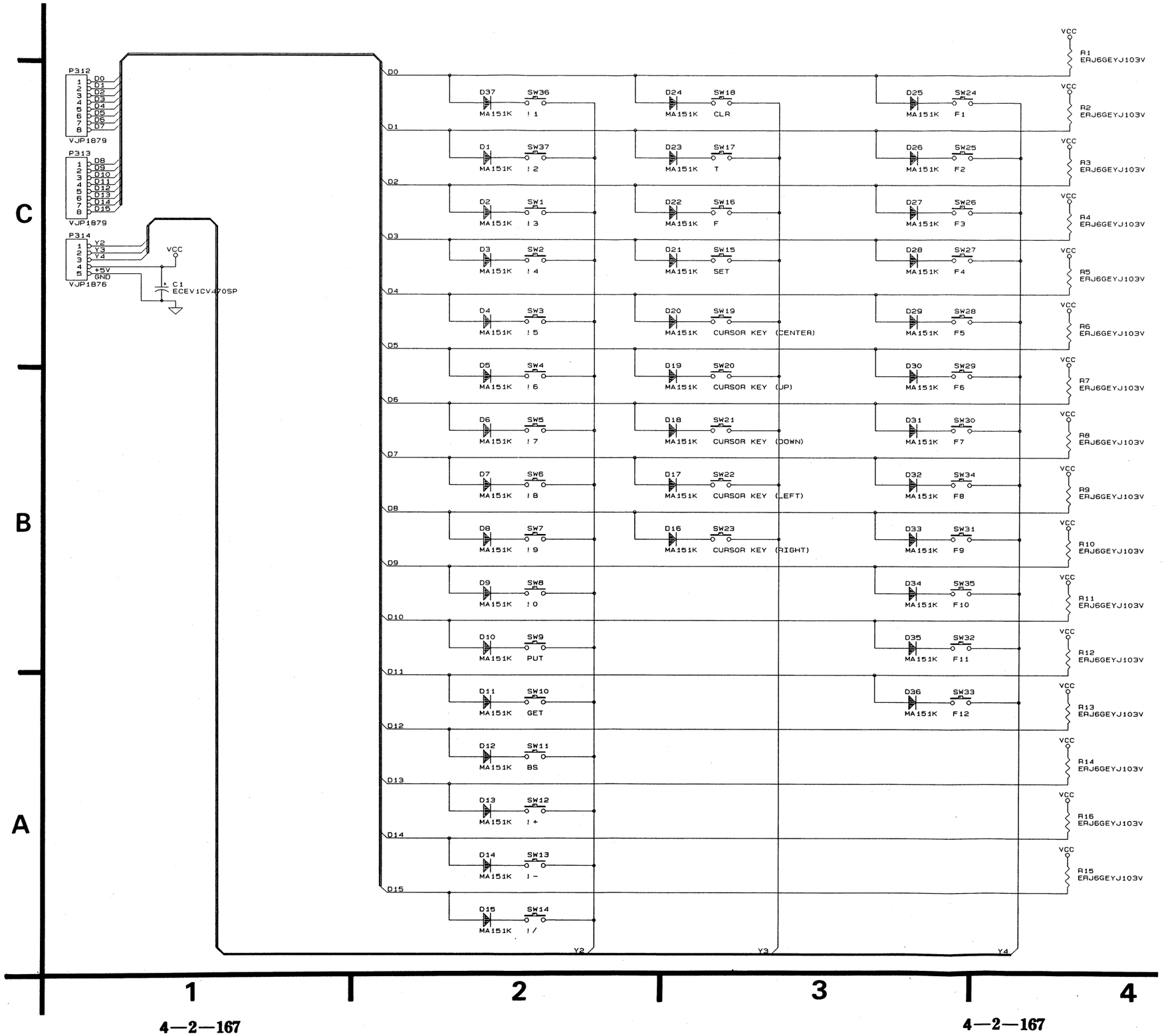
# FR SWITCH SCHEMATIC DIAGRAM






4—2—166

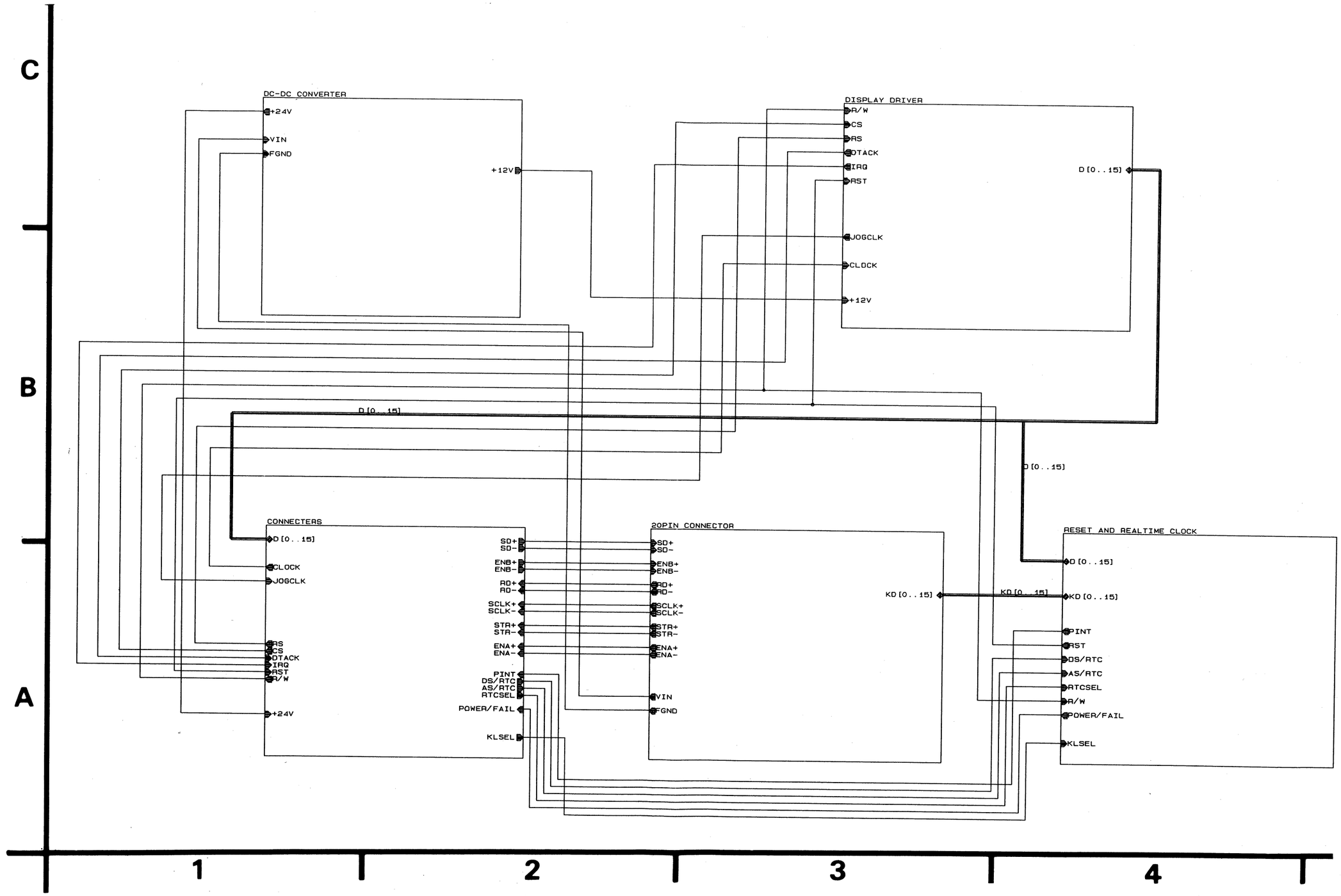
# FR FUNCTION SCHEMATIC DIAGRAM





4—2—167

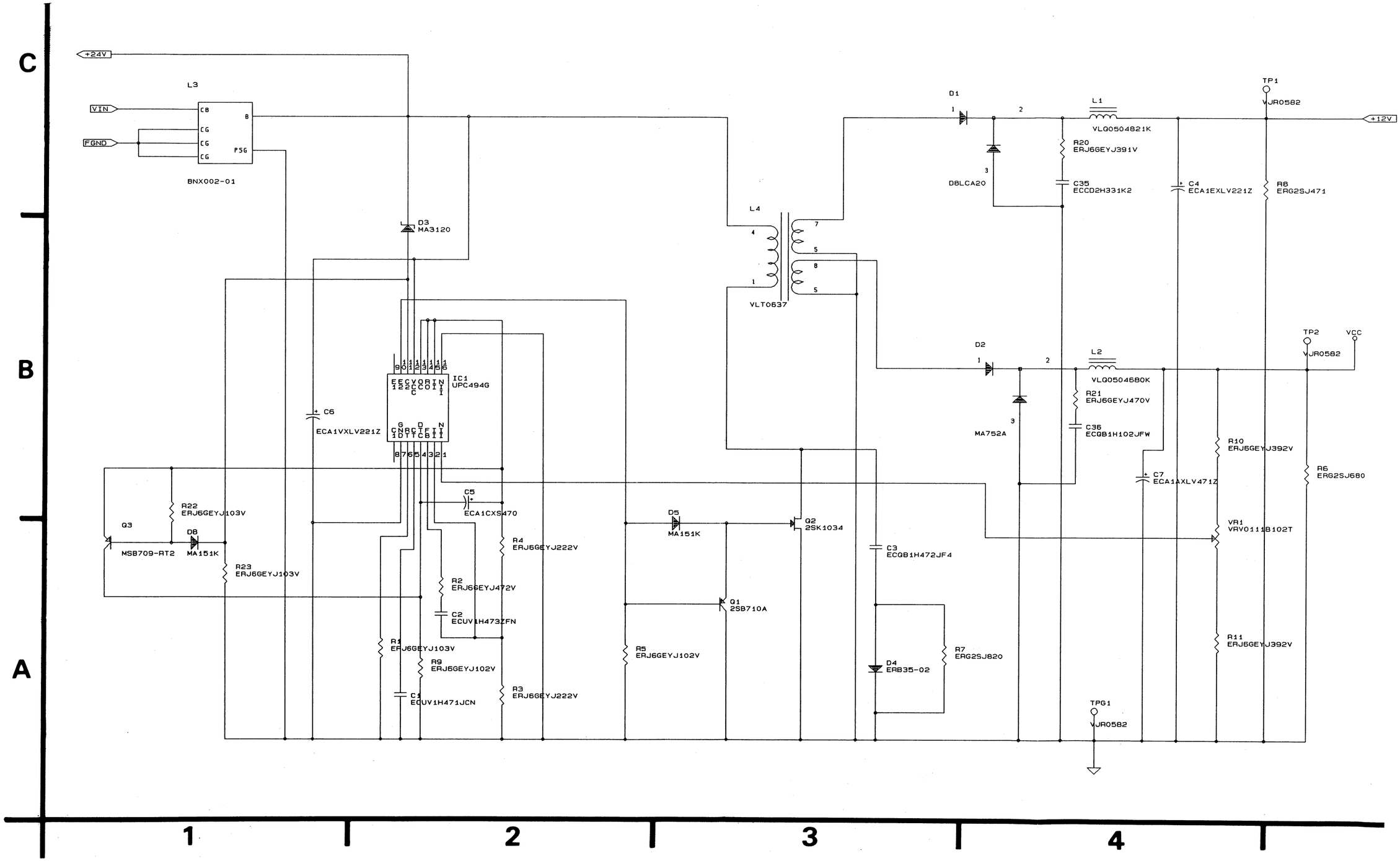
# FR BASE 1 SCHEMATIC DIAGRAM (1/5)






4—2—168

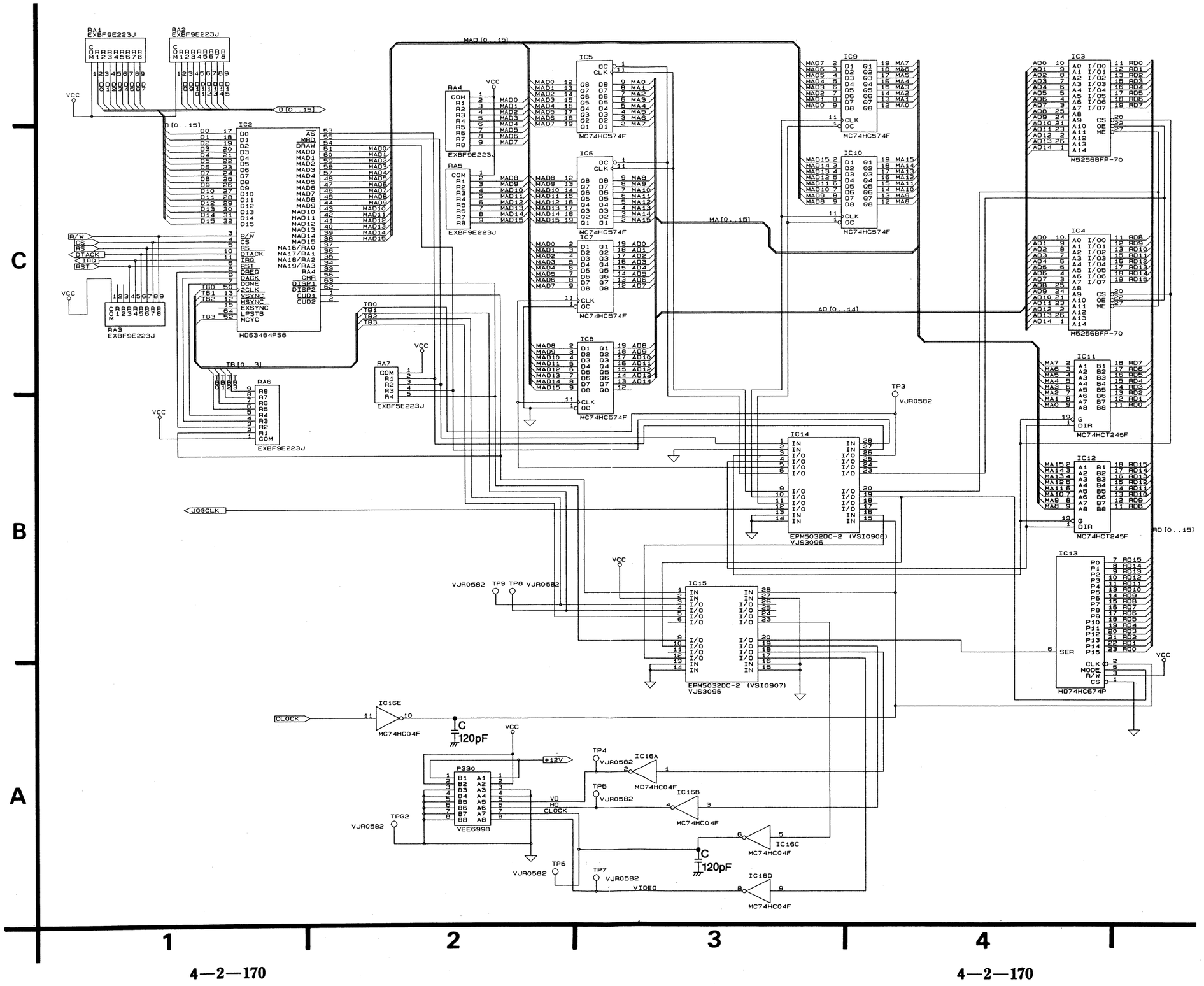
# FR BASE 1 SCHEMATIC DIAGRAM (2/5)






4—2—169

# FR BASE 1 SCHEMATIC DIAGRAM (3/5)

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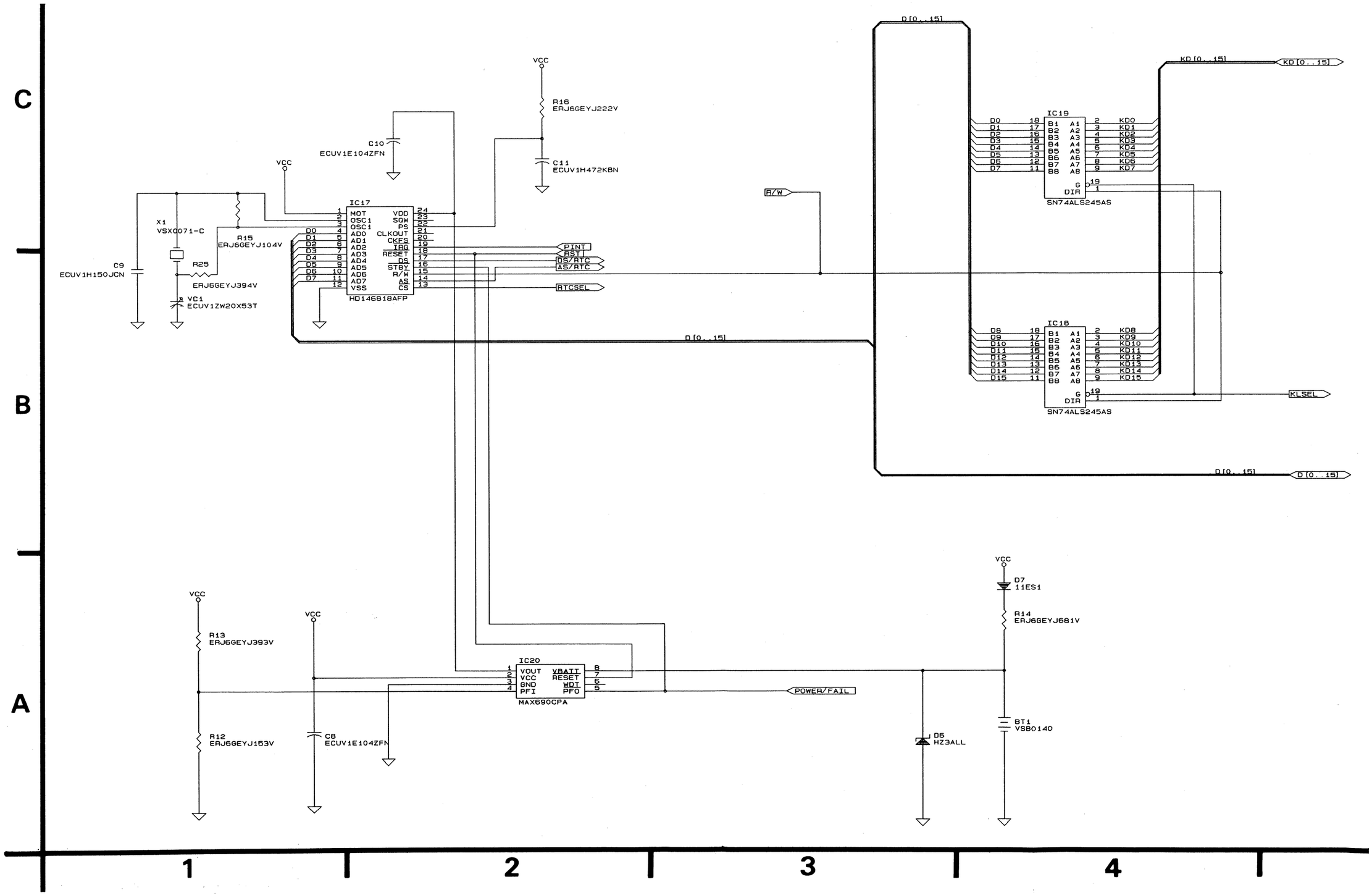
1 2 3 4

4—2—170 4—2—170

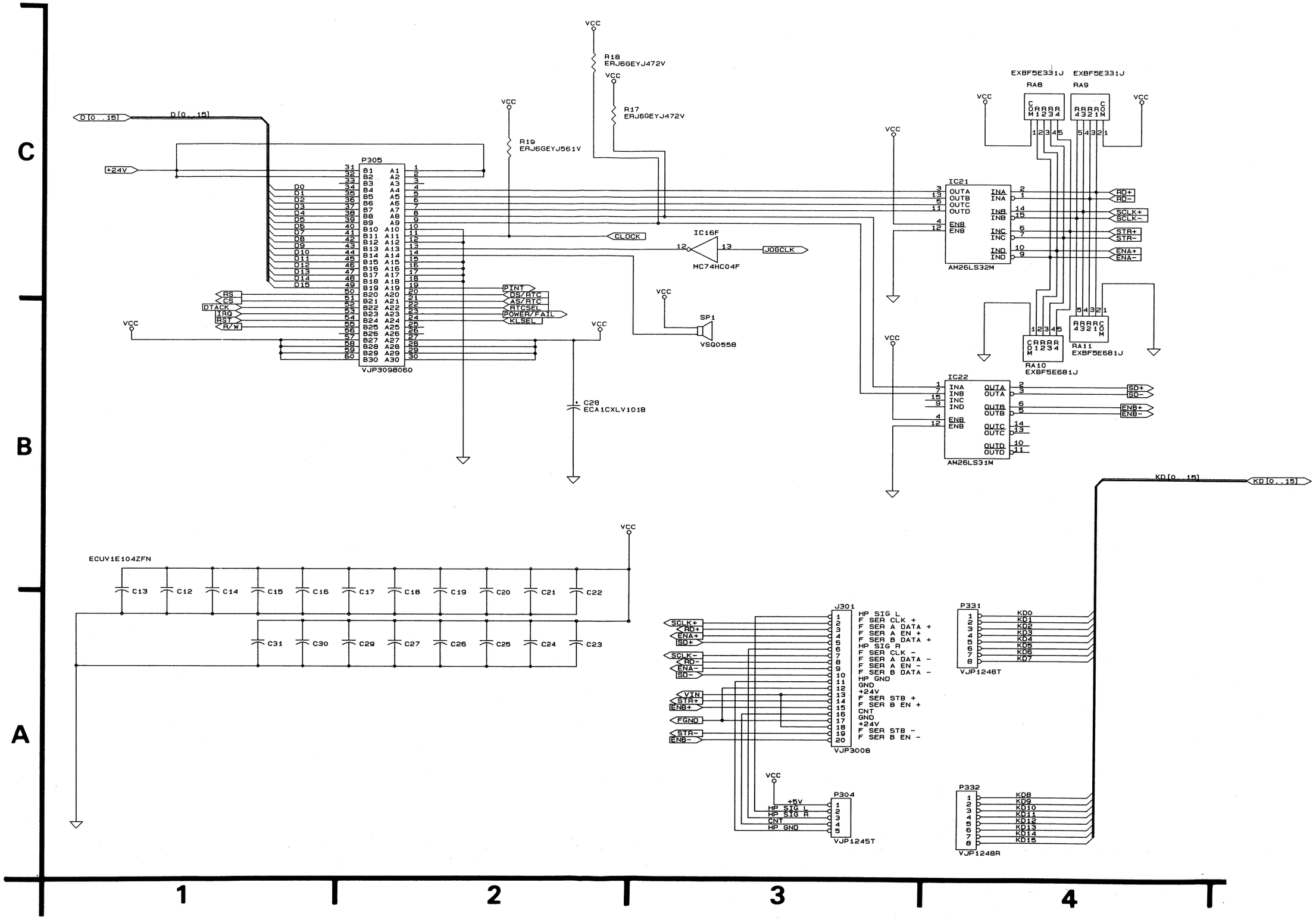
# FR BASE 1 SCHEMATIC DIAGRAM (4/5)






4—2—171

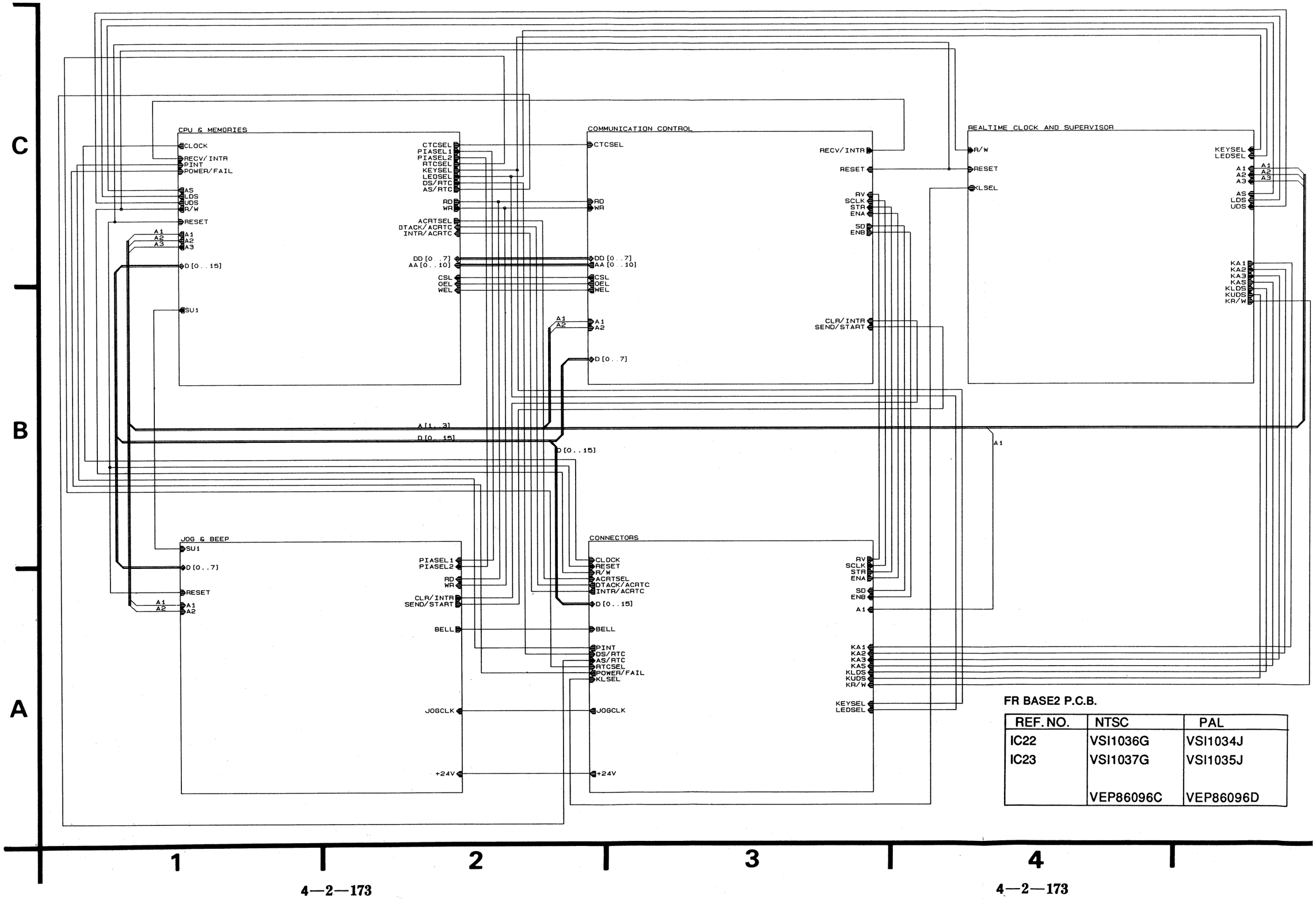
# FR BASE 1 SCHEMATIC DIAGRAM (5/5)






4—2—172

# FR BASE 2 SCHEMATIC DIAGRAM (1/5)



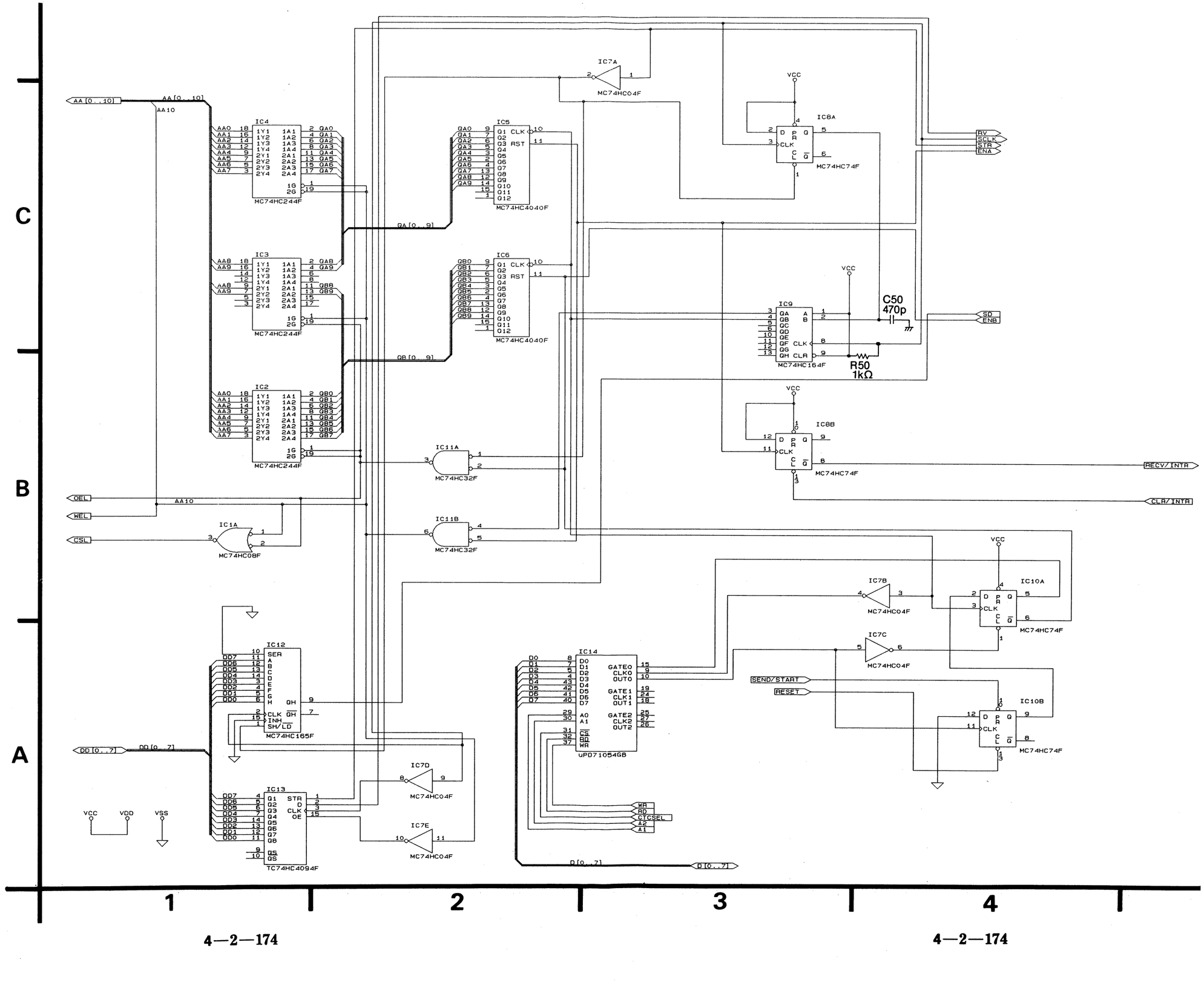

**FR BASE2 P.C.B.**

| REF. NO. | NTSC | PAL |
|---|---|---|
| IC22 | VSI1036G | VSI1034J |
| IC23 | VSI1037G | VSI1035J |
| | VEP86096C | VEP86096D |



4—2—173

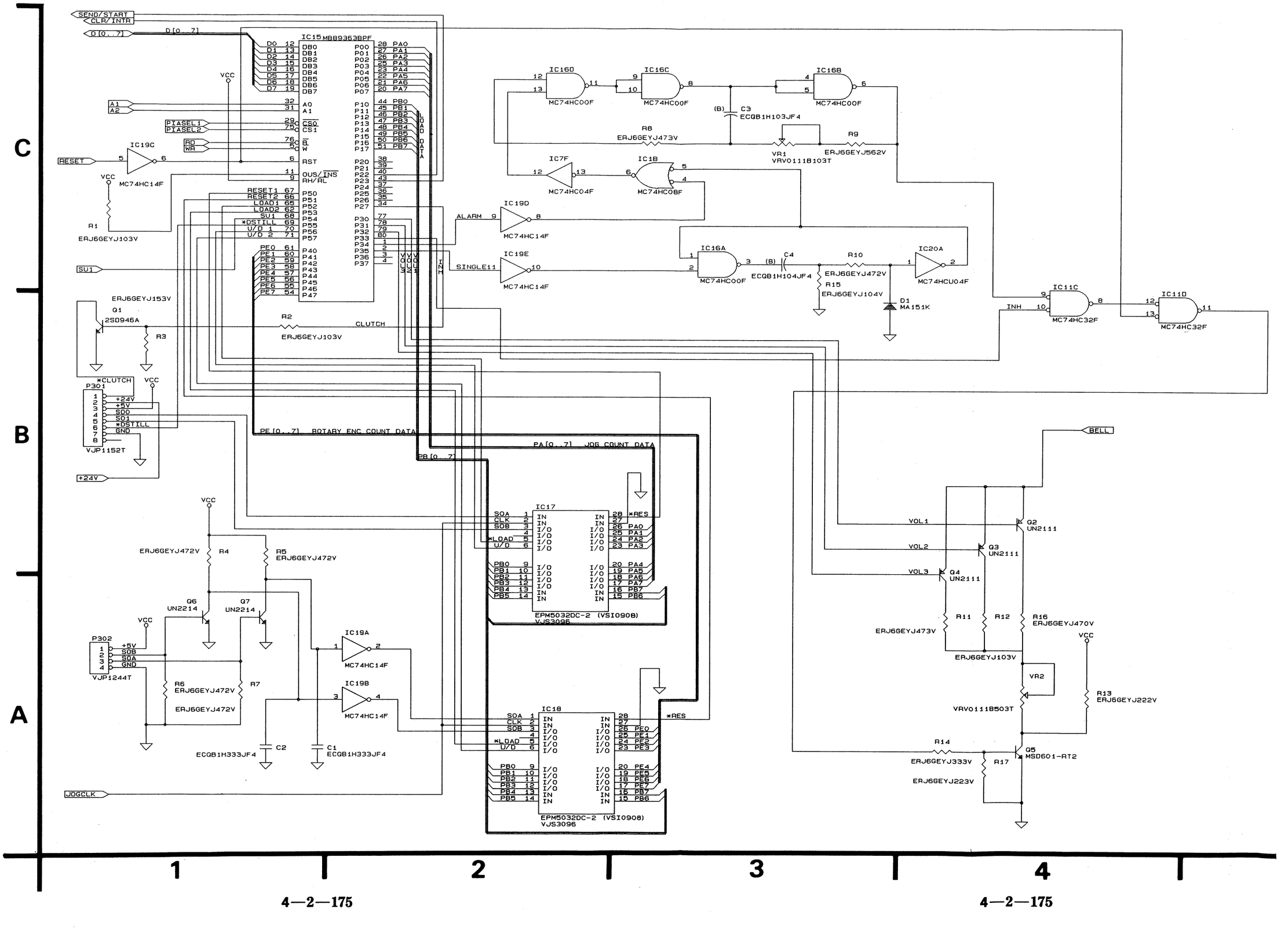
# FR BASE 2 SCHEMATIC DIAGRAM (2/5)




4—2—174

4—2—174

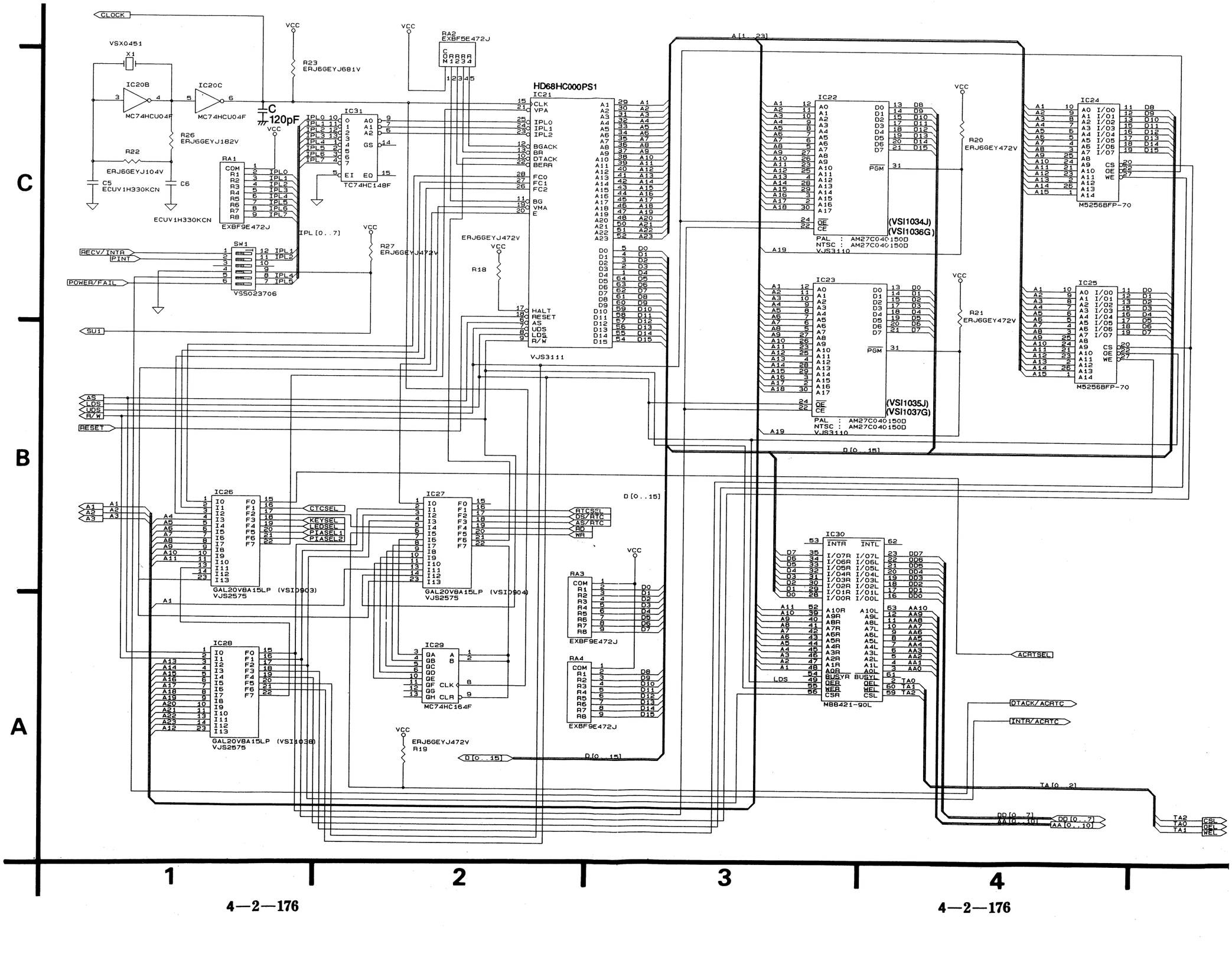
# FR BASE 2 SCHEMATIC DIAGRAM (3/5)






4—2—175

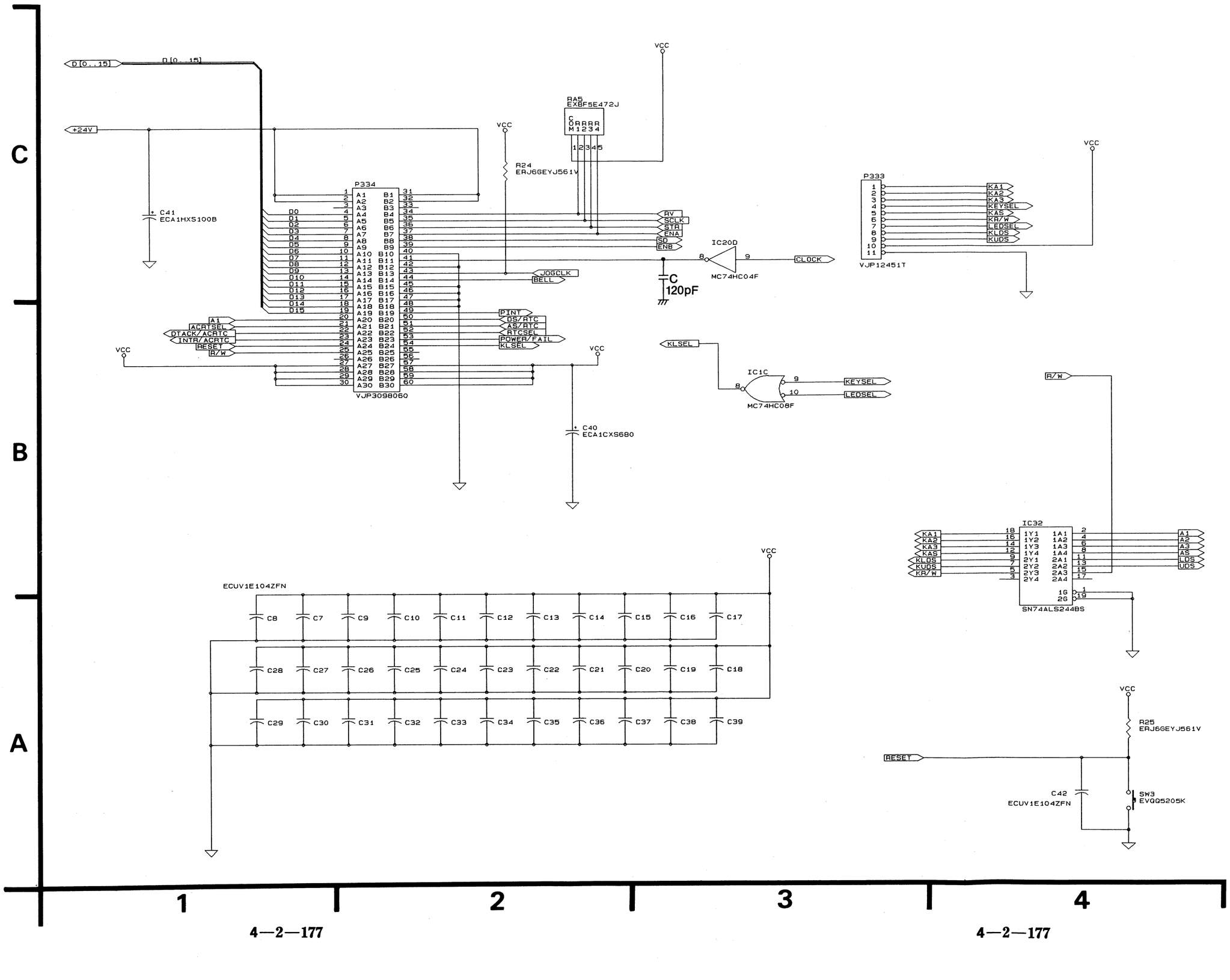
# FR BASE 2 SCHEMATIC DIAGRAM (4/5)




4—2—176

4—2—176

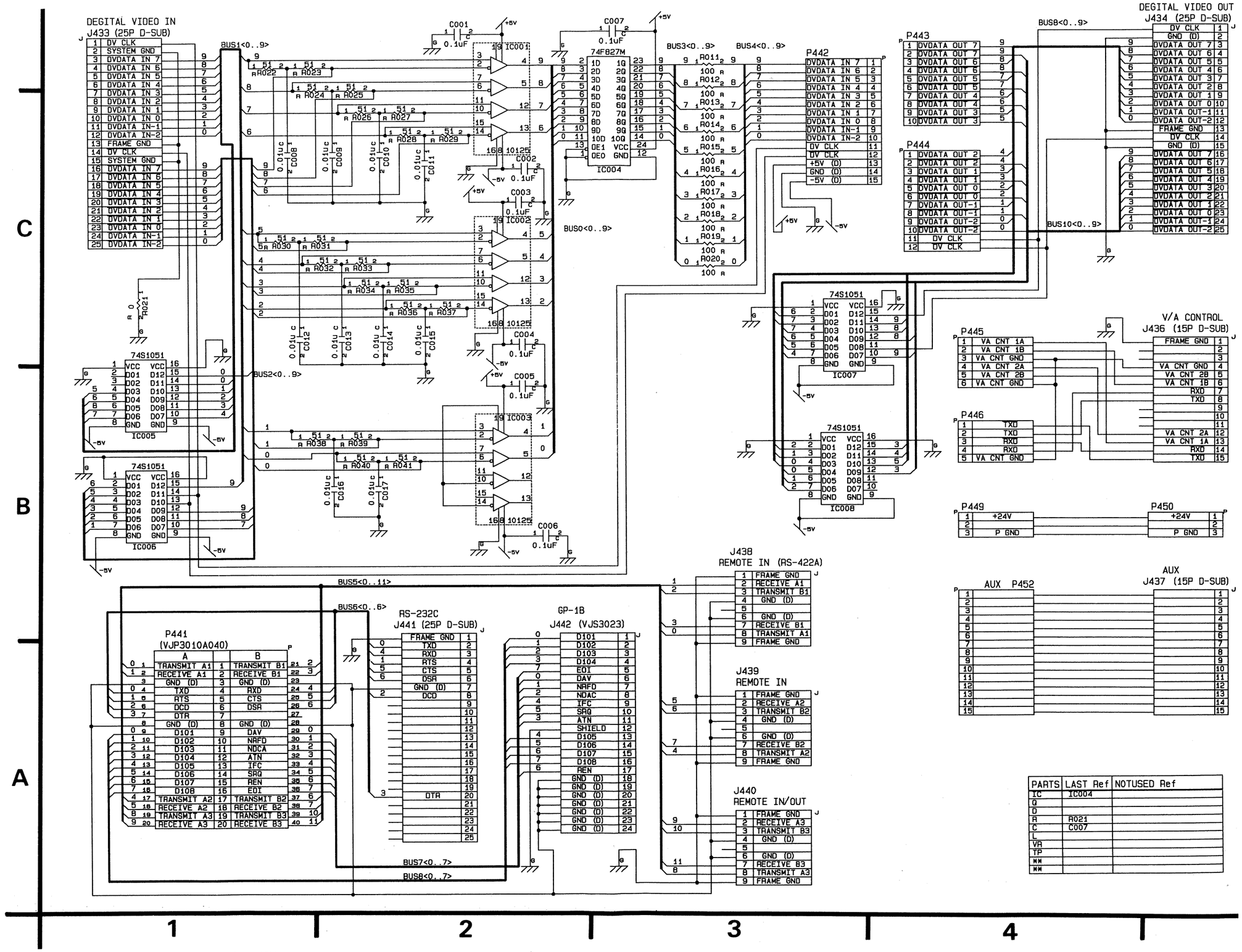
# FR BASE 2 SCHEMATIC DIAGRAM (5/5)






4—2—177

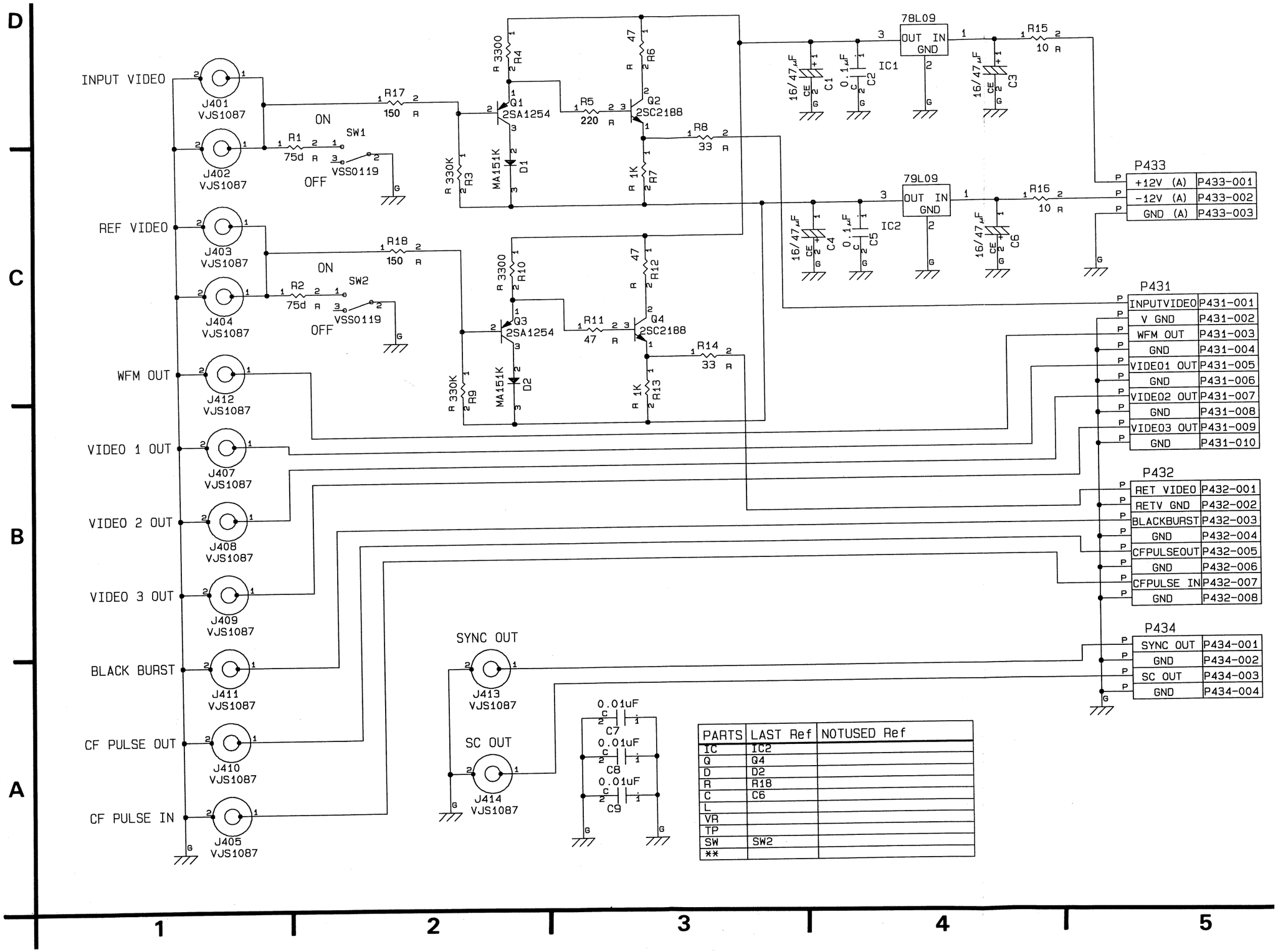
# REMOTE JACK 1 SCHEMATIC DIAGRAM




| PARTS | LAST Ref | NOTUSED Ref |
|---|---|---|
| IC | IC004 | |
| G | | |
| D | | |
| R | R021 | |
| C | C007 | |
| L | | |
| VR | | |
| TP | | |
| ** | | |
| ** | | |


4—2—178

# VIDEO IN/OUT SCHEMATIC DIAGRAM




| PARTS | LAST Ref | NOTUSED Ref |
|---|---|---|
| IC | IC2 | |
| Q | Q4 | |
| D | D2 | |
| R | R18 | |
| C | C6 | |
| L | | |
| VR | | |
| TP | | |
| SW | SW2 | |
| ** | | |

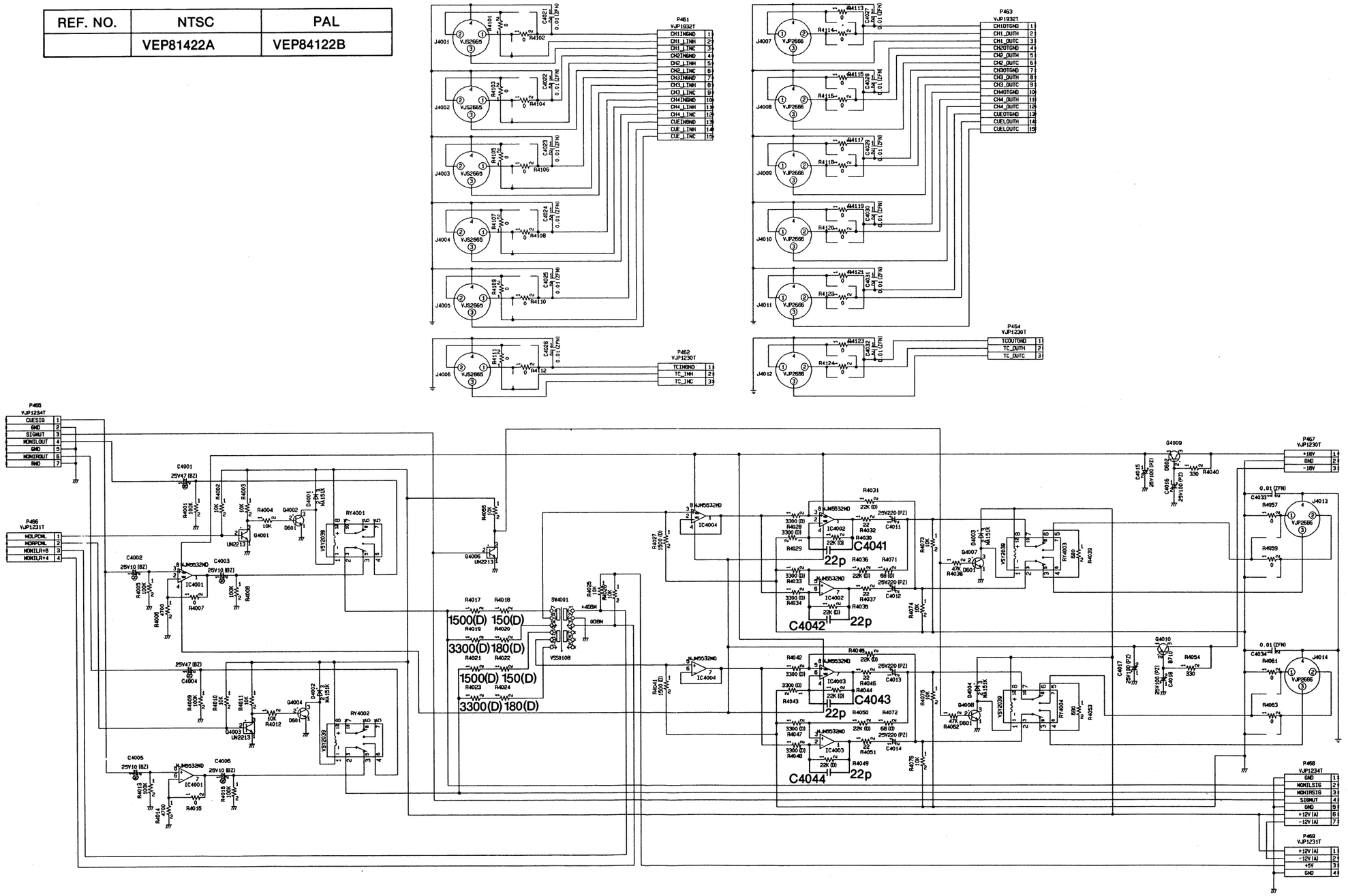


4—2—179

# AUDIO MONITOR SCHEMATIC DIAGRAM

COMPARISON CHART BETWEEN
NTSC MODEL AND PAL MODEL
AUDIO IN/OUT MONITOR P.C.B.

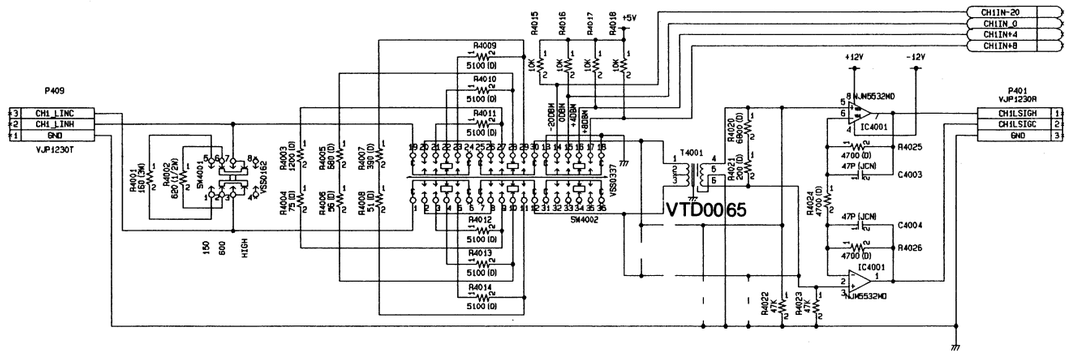
| REF. NO. | NTSC | PAL |
|---|---|---|
| | VEP81422A | VEP84122B |

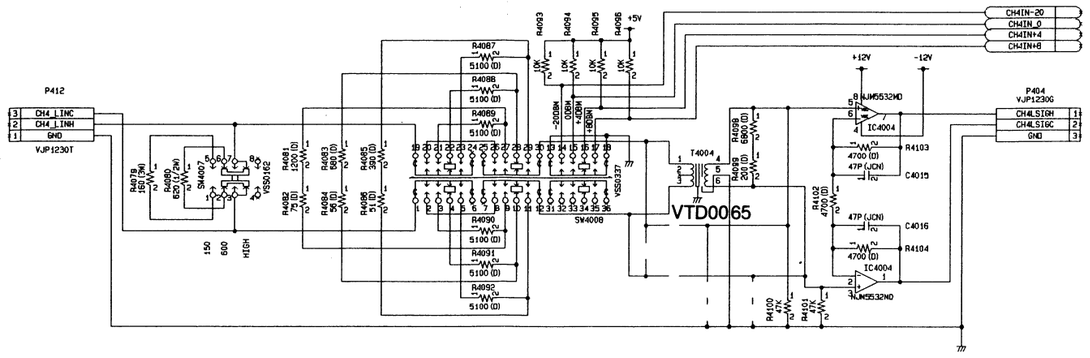


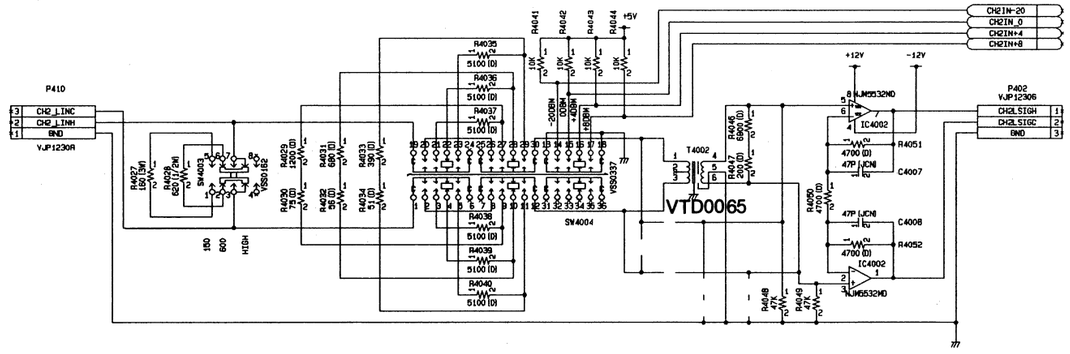


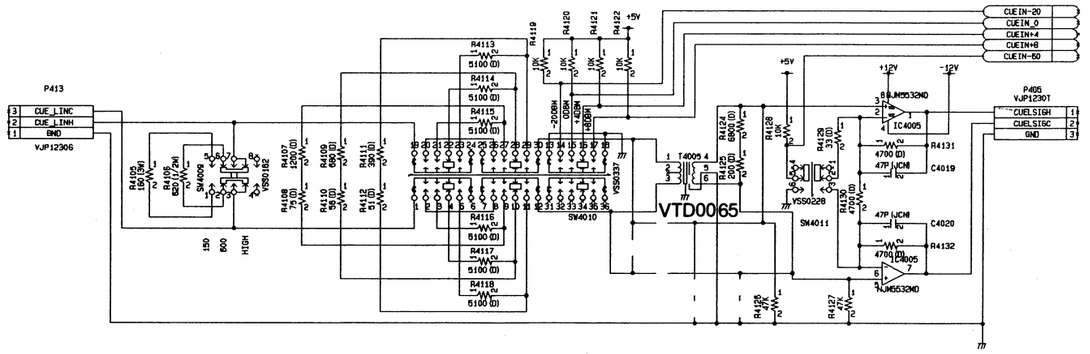

4—2—180

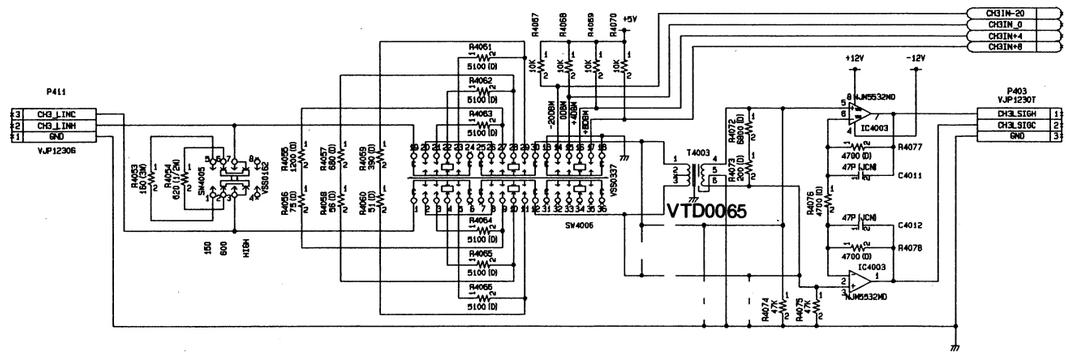
# AUDIO IN/OUT SCHEMATIC DIAGRAM (1/4) [FOR PAL]

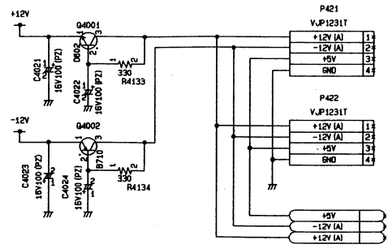


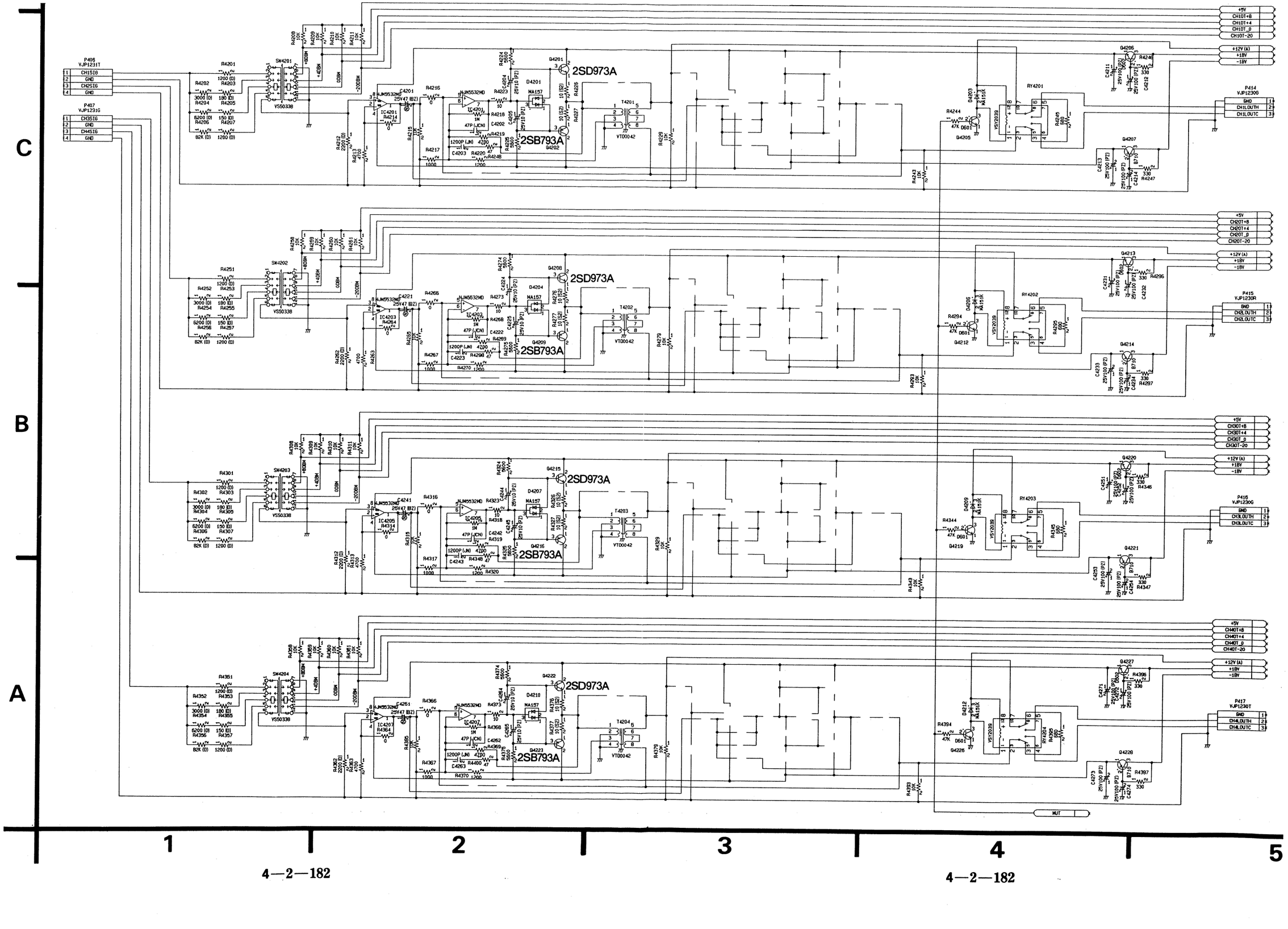

A B C

1 2 3 4 5

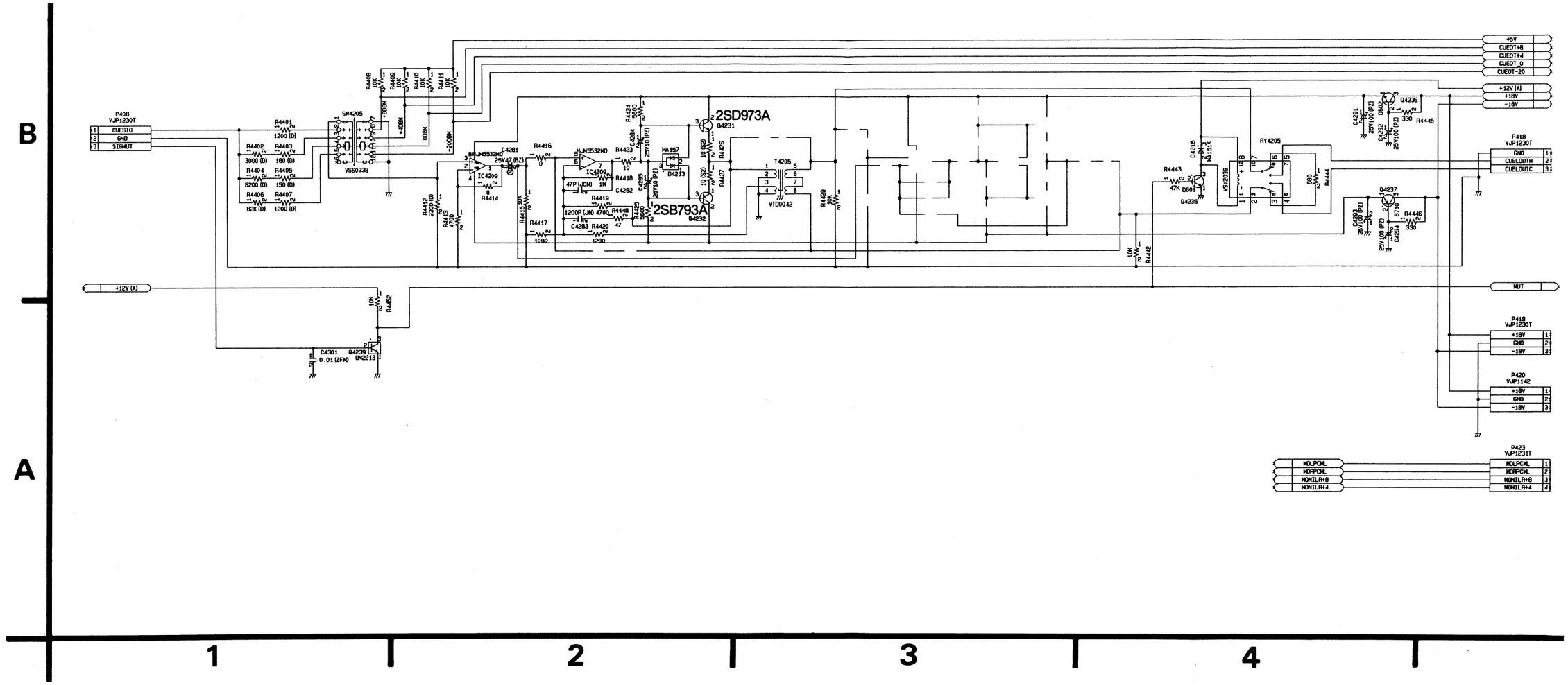


4—2—181

# AUDIO IN/OUT SCHEMATIC DIAGRAM (2/4) [FOR PAL]



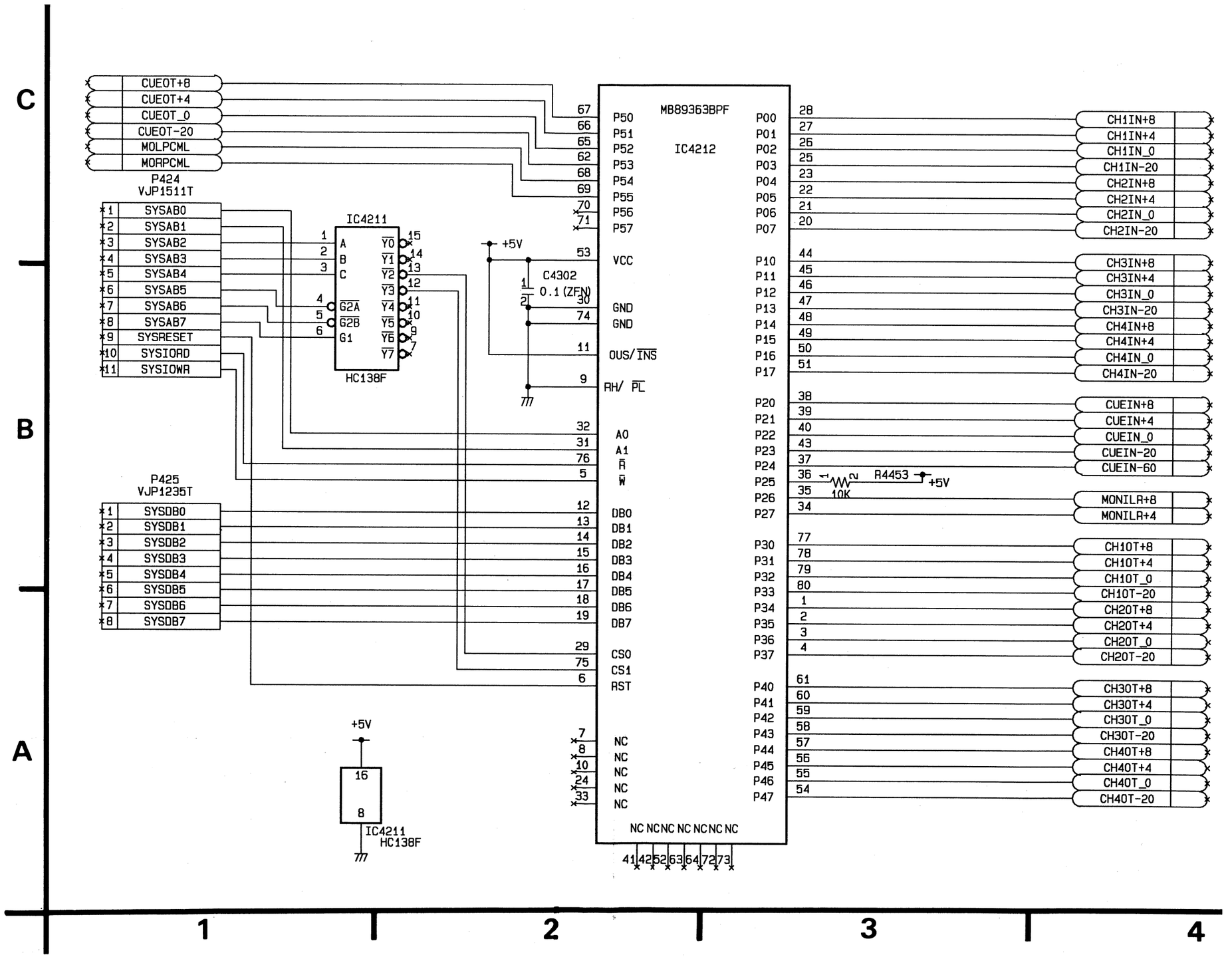
# AUDIO IN/OUT SCHEMATIC DIAGRAM (3/4) [FOR PAL]






4—2—183

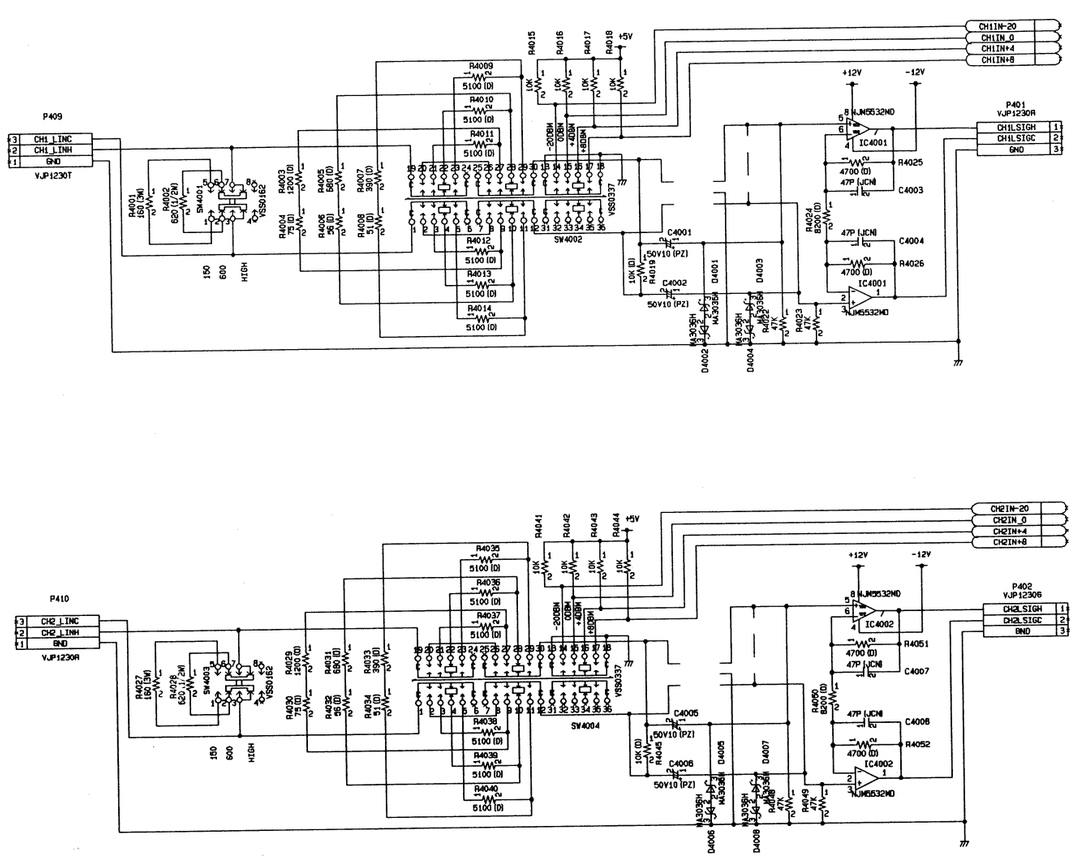
# AUDIO IN/OUT SCHEMATIC DIAGRAM (4/4) [FOR PAL]

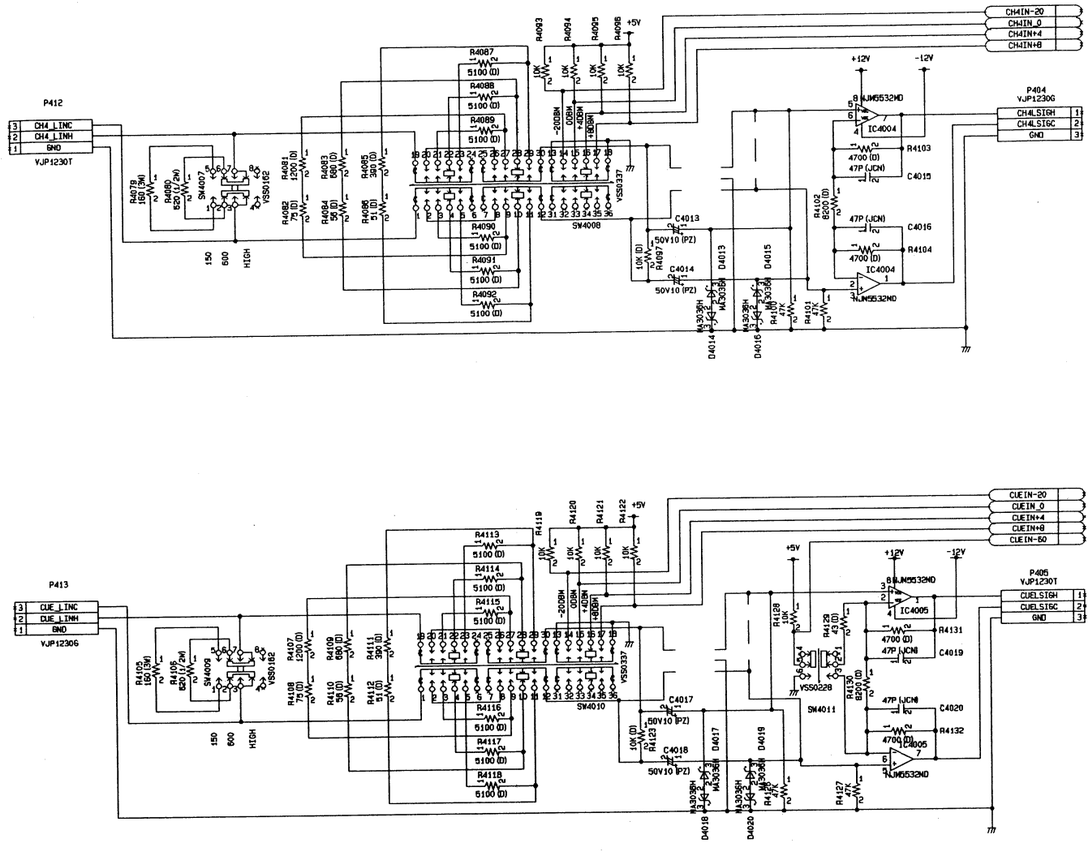





4—2—184

# AUDIO IN/OUT SCHEMATIC DIAGRAM (1/4) [FOR NTSC]

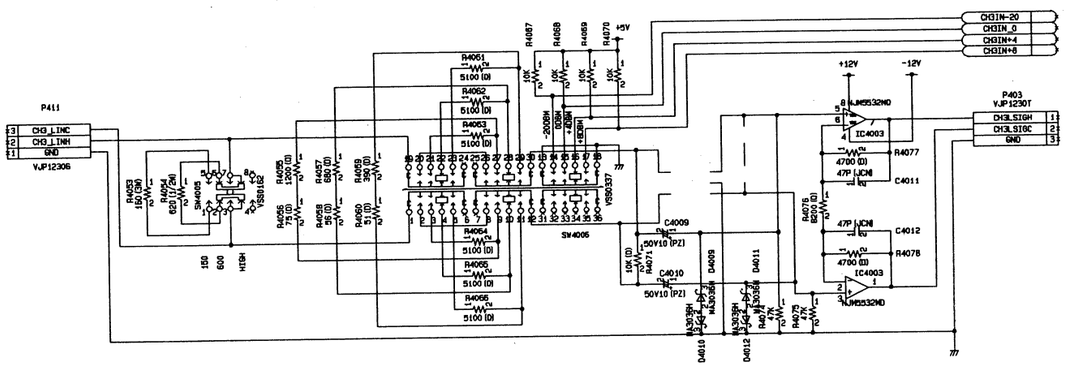


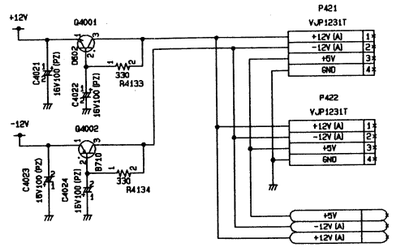









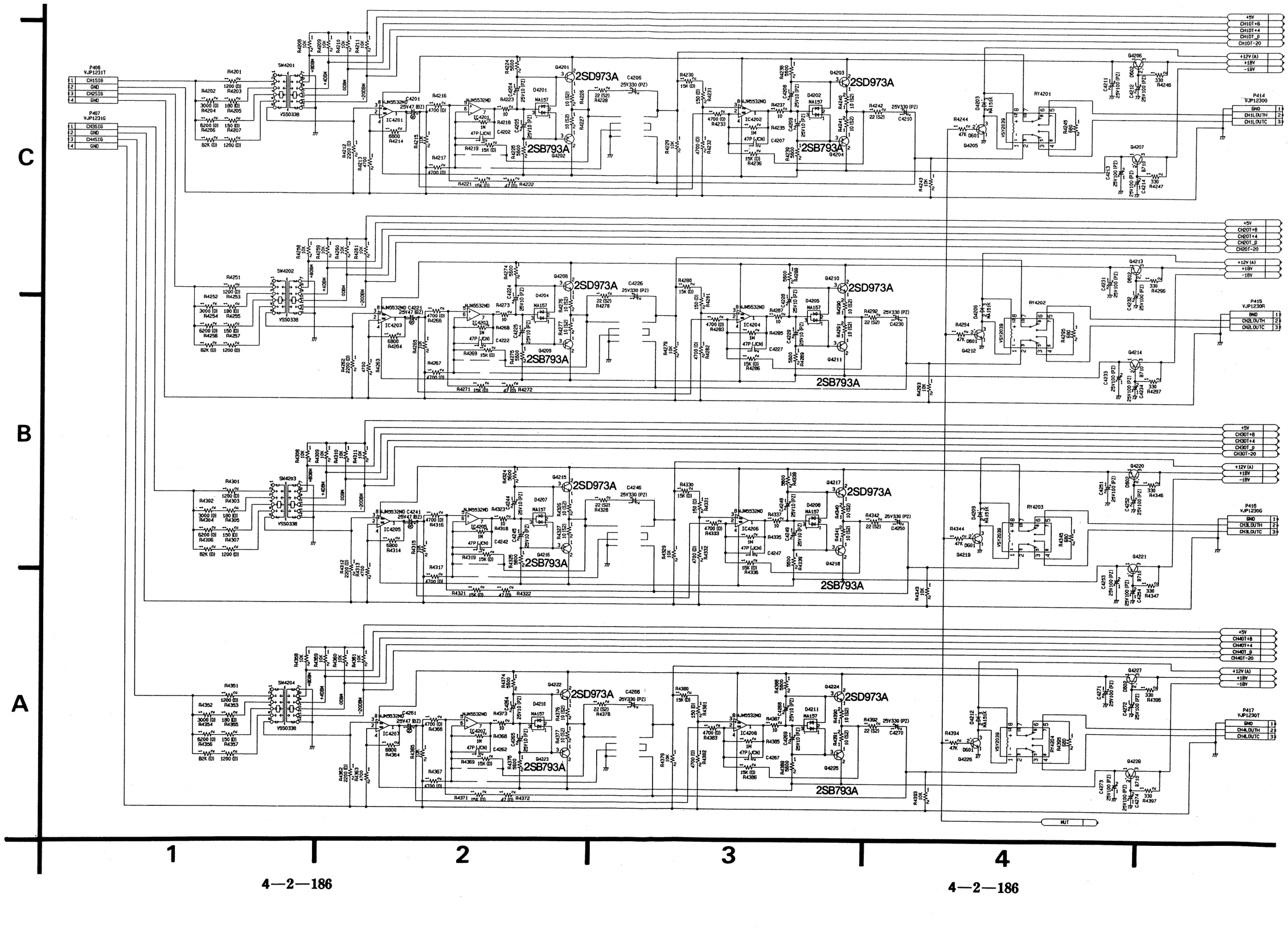

A B C

1 2 3 4 5



4—2—185

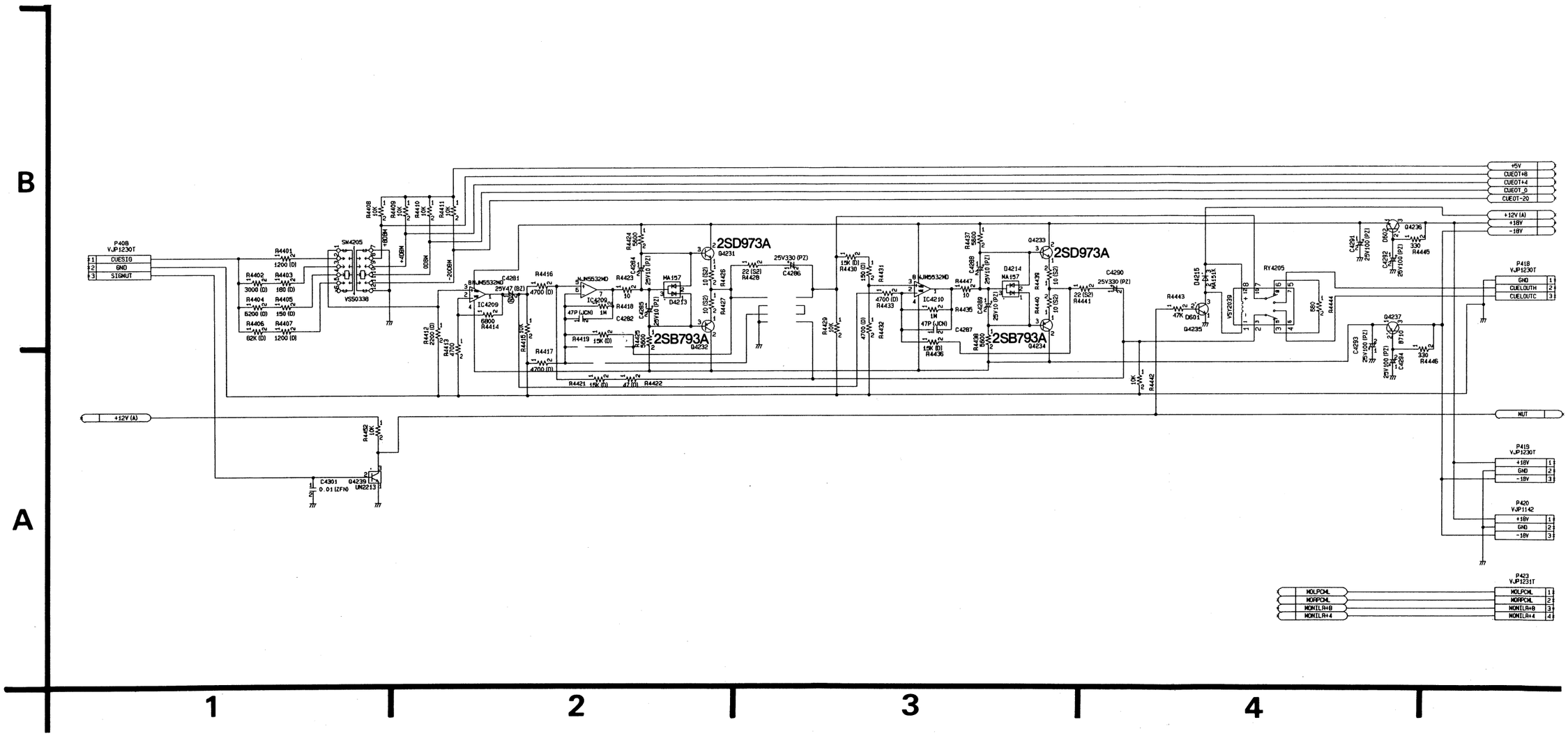
# AUDIO IN/OUT SCHEMATIC DIAGRAM (2/4) [FOR NTSC]





4—2—186

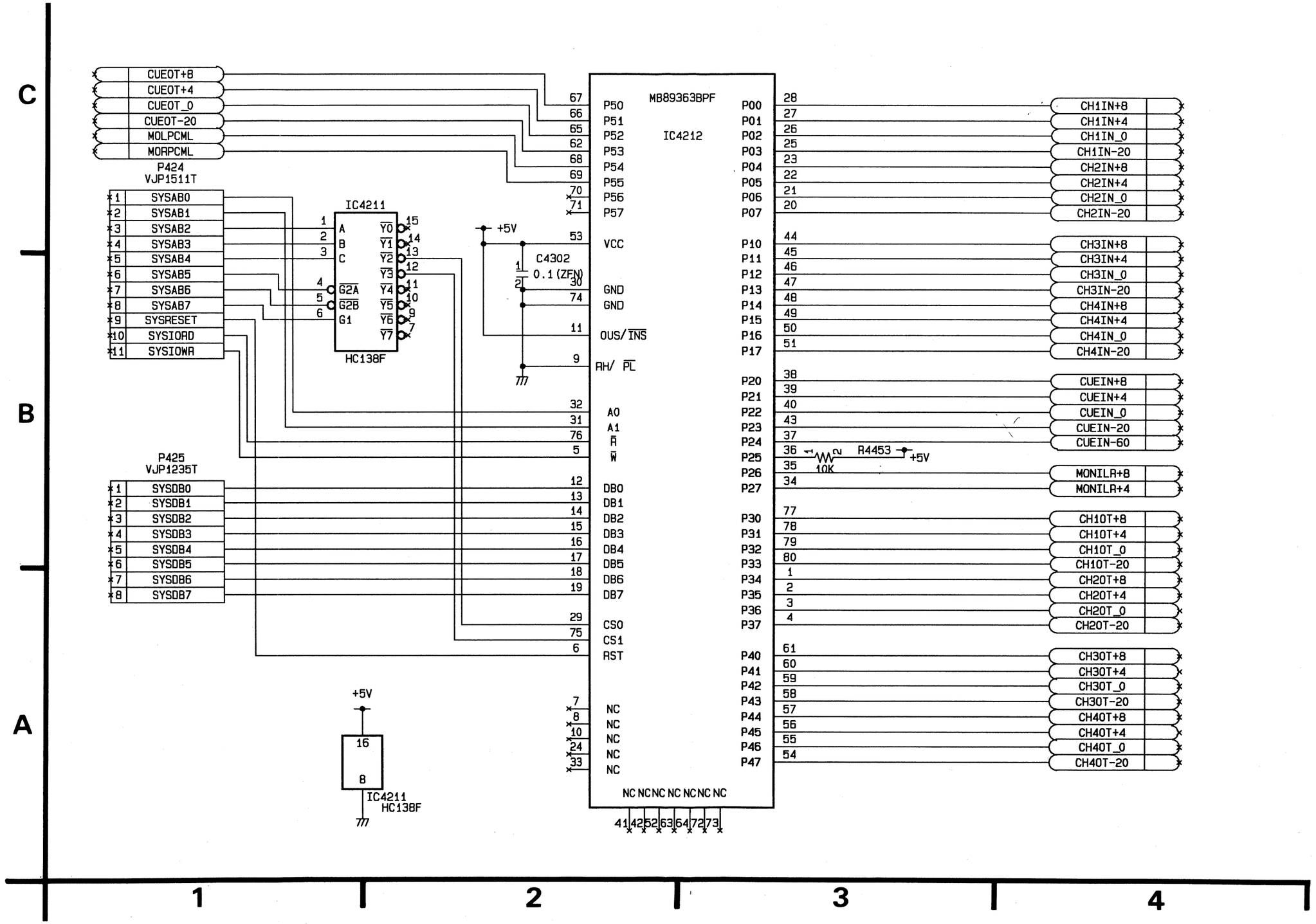
# AUDIO IN/OUT SCHEMATIC DIAGRAM (3/4) [FOR NTSC]






4—2—187

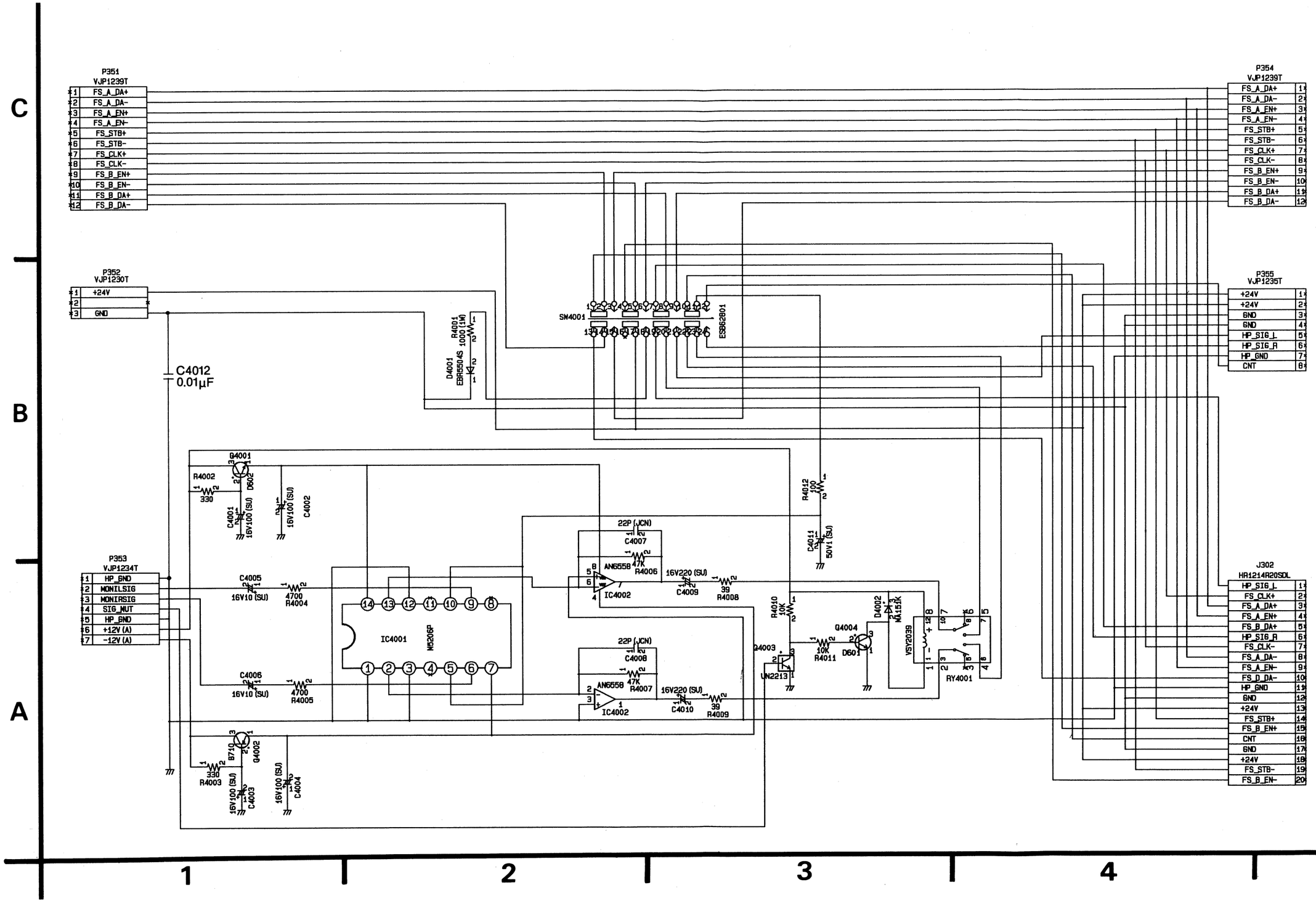
# AUDIO IN/OUT SCHEMATIC DIAGRAM (4/4) [FOR NTSC]






4—2—188

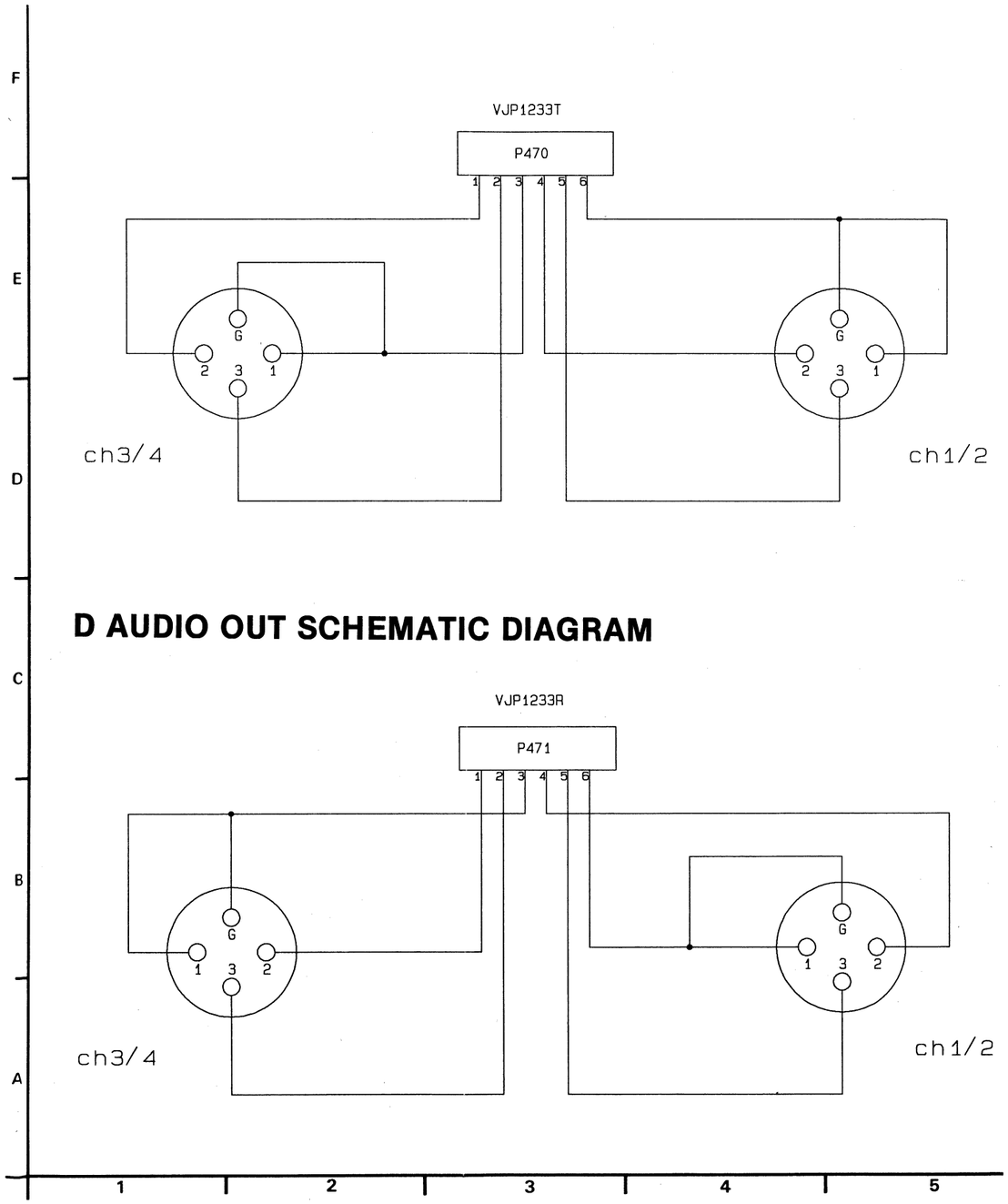
# FR HP AMP SCHEMATIC DIAGRAM






4—2—189

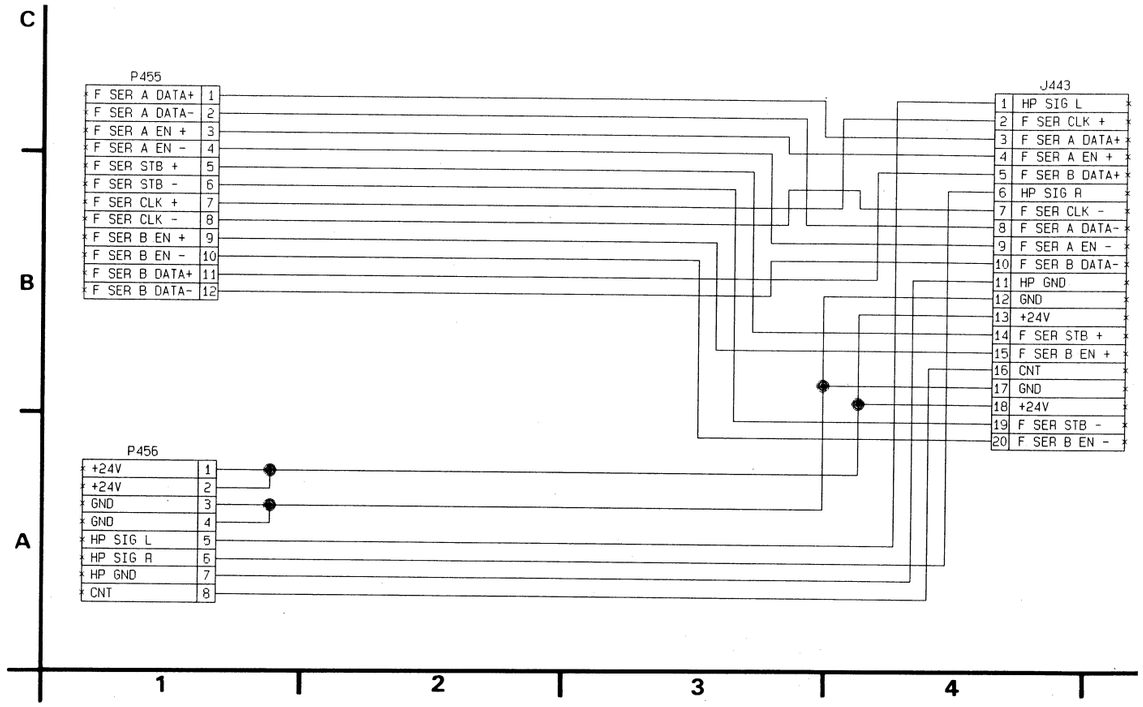
## D AUDIO IN SCHEMATIC DIAGRAM




## D AUDIO OUT SCHEMATIC DIAGRAM






## REMOTE JACK 3 SCHEMATIC DIAGRAM